Fire Hazards In Modern Cooled Buildings . . *Pg. 14*

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Recold Works 2 Shifts With New Employes

LOS ANGELES, April 27—With the start of a night shift operation on April 26, Recold Corp. here was back in full two-shift production on all product lines with new plant employes replacing union employes who had struck the plant April 10.

Some production of the firm's lines of air conditioning and refrigeration equipment had been maintained in the period between April 11 and April 22 by salaried personnel.

However, when all but a handful of union members rejected a back-to-work call, the company advertised for new production employes to start to work April 25, and Recold was literally swamped with applicants, reports H. T. "Hy"

(Continued on Page 4, Col. 5)

RSES Names Spence To Full Time Post

CHICAGO—John H. Spence, retired service manager of Hussmann Refrigeration, Inc., was named as the full time educational director of the Refrigeration Service Engineers Society, effective April 1.

Spence succeeded the late Paul B. Reed as the association's educational director, conducting the activities of the educational department as his time would permit. Spence will maintain his office at 5055 Fairview Ave., St. Louis 9, Mo. and will direct the activities of the RSES Milwaukee educational office from that point.

MCAA Meeting Opens May 9 At Waldorf

NEW YORK CITY — Over 1,000 members and their families are expected to attend the 71st national convention of the Mechanical Contractors Association of America, opening May 9 at the Waldorf-Astoria hotel here.

In addition, some 50 manufacturers will participate in the Fourth Annual Business Conference program, held in conjunction with the convention, which will last through to May 12, the association announced.

Presiding over the convention will be William P. Scott, Jr., national president and president of the Scott Co., Oakland, Calif.

He will be assisted by Joseph S. Kearney, national vice president and president of the Northwest Heating & Plumbing Co., Evanston, Ill., and Joseph A. Courter, president of the Mechanical Contractors Association of New York City, host for the convention. Courter is president of Courter & Co., Inc., New York City.

Highlighting the meeting will be a series of seminars on subjects of immediate interest and importance to the mechanical contracting industry, it was pointed out. These will be open to any and all segments of the industry who wish to attend. Their schedule is as follows:

Air Conditioning and Refrigeration Panel, under the chairmanship of M. S. Lebair, York Corp., to be held from 2 to 4

(Continued on Page 31, Col. 2)

Multiple-Choice Financing Set for Carrier Customers

SYRACUSE, N. Y. — Carrier Corp. has announced a new multiple-choice financing package for its industrial and commercial customers.

The expanded Carrier service now offers a choice of either leasing equipment or purchasing it through an instalment plan as well as on a conventional cash basis.

Under the new program the leasing of Carrier equipment will be exclusively handled nationwide by United States Leasing Corp., San Francisco. Leases will be originated and processed through the 80 branch offices of Carrier's affiliate, Appliance Buyers Credit Corp., St. Joseph, Mich., which also finances Carrier's instalment purchase plans.

(Continued on Page 31, Col. 3)

Appeal Initial Decision To Dismiss FTC Case Against 9 Ice Cream Manufacturers

WASHINGTON, D. C. — The Federal Trade Commission has been asked to reverse a trial examiner's initial decision dismissing unfair trade practice charges against nine major ice cream manufacturers and their 55 subsidiaries, the NEWS learned recently.

Among the unfair trade practices charged against the manufacturers, who sell more than half the ice cream gallonage at wholesale in the country, is that they "give away" refrigeration facilities and service refrigeration equipment free of charge as inducements to "buy" accounts.

Other complaint practices include granting loans of money to accounts or prospective accounts, off-list pricing, and supplying of signs and other equipment.

Lynn C. Paulson, FTC counsel supporting the complaints, filed an appeal brief late last year, he now informs the NEWS. He charged in his brief that Hearing Examiner John Lewis' findings "were contrary to the record . . . were extraneous to the complaints . . . were nebulous or were grounded upon tests and standards not applicable to Section 5" of the Federal Trade Commission Act, providing for control of competitive behaviour.

"We have suggested that the examiner's findings are not entitled to weight and that the commission must itself find the facts," he declared in his appeal brief.

In a letter to the NEWS, Paulson said that the accused ice cream manufacturers were given until April 28 in which to file a reply brief. They had asked for a 60-day extension, however.

By April 28, eight of the nine dairies had been granted a time extension to May 31 in which to file their briefs. One, Pet Milk Co., had not asked for an extension and (at press time) had not yet filed a brief, the secretary to the Federal Trade Commission informed the NEWS.

When the briefs are in, Paulson said, there will be an oral argument before the commission. Then the commission will decide whether to accept, reject, or modify the hearing examiner's initial decision.

The nine ice cream manufac-

(Continued on Page 29, Col. 1)

In Richmond

'59 Home Cooling Sales Steady

RICHMOND, Va. — Sales of residential air conditioning held fairly steady here in 1959, compared with the previous year, indicates another in the series of surveys made by the NEWS.

Although tabulated data obtained from seven contractors and three distributors on their 1959 sales totaled somewhat less than 1958 figures, some substantial gains were noted by other firms not listed in the accompanying tabulation.

It can be safely assumed then that there was no over-all reduction in sales between 1958 and 1959, but it is also obvious that conservative Richmond is hardly indulging in a buying spree on residential air conditioning.

Increases in sales, however, were noted by five of the seven contractors listed, but two contractors and all three distributors listed suffered some reduction in sales.

Not represented in the 1959

(Continued on Page 7, Col. 1)

Inside Dope

By GEORGE F. TAUBENECK

Learn to live and laugh — thus delay your epitaph

The Office Is a Human Laboratory
Unequal Rights?
The Oblique Sell
We Need More Days In the Week
Stories of the Week

The Office Is a Human Laboratory

National Office Management Association has compiled an Office Customs Survey in which more than 2,300 business, industrial, and service organizations in the United States and Canada participated. Many interesting results were revealed, to wit:

Typical male office worker is expected to arrive at the office dressed in good taste, usually with a coat and tie (except in warm weather when he may be permitted to wear an open sport shirt).

He smokes at will. If he's hungry, he may get a snack from a vending machine in the building—usually during one of his two coffee breaks.

If the typical male office worker has to place an outside personal telephone call, he does so at the company's expense. In addition, he takes incoming personal telephone calls at any time.

He also receives personal mail in the office and, if the letter is marked "personal," he expects that said letter will not be opened before he sees it.

If his wife applies for a position with his company, he knows her application will not be rejected because of family relationship, but he disapproves that policy.

Every December he looks forward to attending a company Christmas party held at a hotel and paid for by the company. He may be fairly certain of attending a company picnic—sometimes over a weekend—at the company's expense in July or August.

Unequal Rights?

Typical female office worker may follow a similar routine with, however, a few exceptions: if she smokes, she may have to confine this pleasure to a rest area during one of her two coffee breaks per day.

If she marries, she may or

(Continued on Page 8, Col. 1)

American-Standard Enters Electric Heating Market

NEW YORK CITY — New electric warm air furnaces, packaged heat pumps, and split-system heat pumps for residential and light commercial applications have been introduced by American-Standard Air Conditioning Div.

The introduction of this line marks the entry of the division into the electric heating field and is being supported by an announcement direct mail campaign to public utilities throughout the country.

According to R. J. Berkshire, general marketing manager for the Air Conditioning Div., "The electric heating business is expanding rapidly. It is essential that the warm air heating and air conditioning contractor be provided with the necessary equipment to meet the challenge

(Continued on Back Page, Col. 1)

Surveys Show Interest In Cooling High

MOUNT VERNON, N. Y.— Considerable consumer interest in purchasing an air conditioner this year was disclosed by replies to the annual questionnaire sent to subscribers by Consumers Union.

In reporting highlights from its latest survey in the April issue of *Consumer Reports*, the non-profit organization said that 27% of those replying say they are planning to buy an air conditioner.

"A measure of how high a product interest this percentage indicates," CU said, "may be gleaned from the fact that the percentage of those planning to buy a new refrigerator is 16.7 and of those planning to buy a new car, 17.8."

CU claims to compile annually "far and away the largest sampling of consumer buying plans taken in this country." It said "considerably better than 150,000 subscribers" filled out the three pages of questions having to do with "who they are, what they own, their plans to buy."

Mildred Edie Brady, CU's editorial director, stressed that the purpose of the questionnaire "is not to profile markets for goods. That is a by-product. Our purpose is simply to receive as much specific guidance as possible from our readers on what the contents of forthcoming issues will be."

●

NEW YORK CITY — Existence of a "considerable demand" for air conditioning was turned up by a *Wall Street Journal* survey of more than 300 middle-income consumers in 15 U. S. cities.

In reporting results of its survey, the newspaper said, in part:

"Considerable demand also exists for some appliances, particularly air conditioning, which was mentioned most often to reporters, probably because the current month [April] marks the beginning of the peak selling season for this appliance.

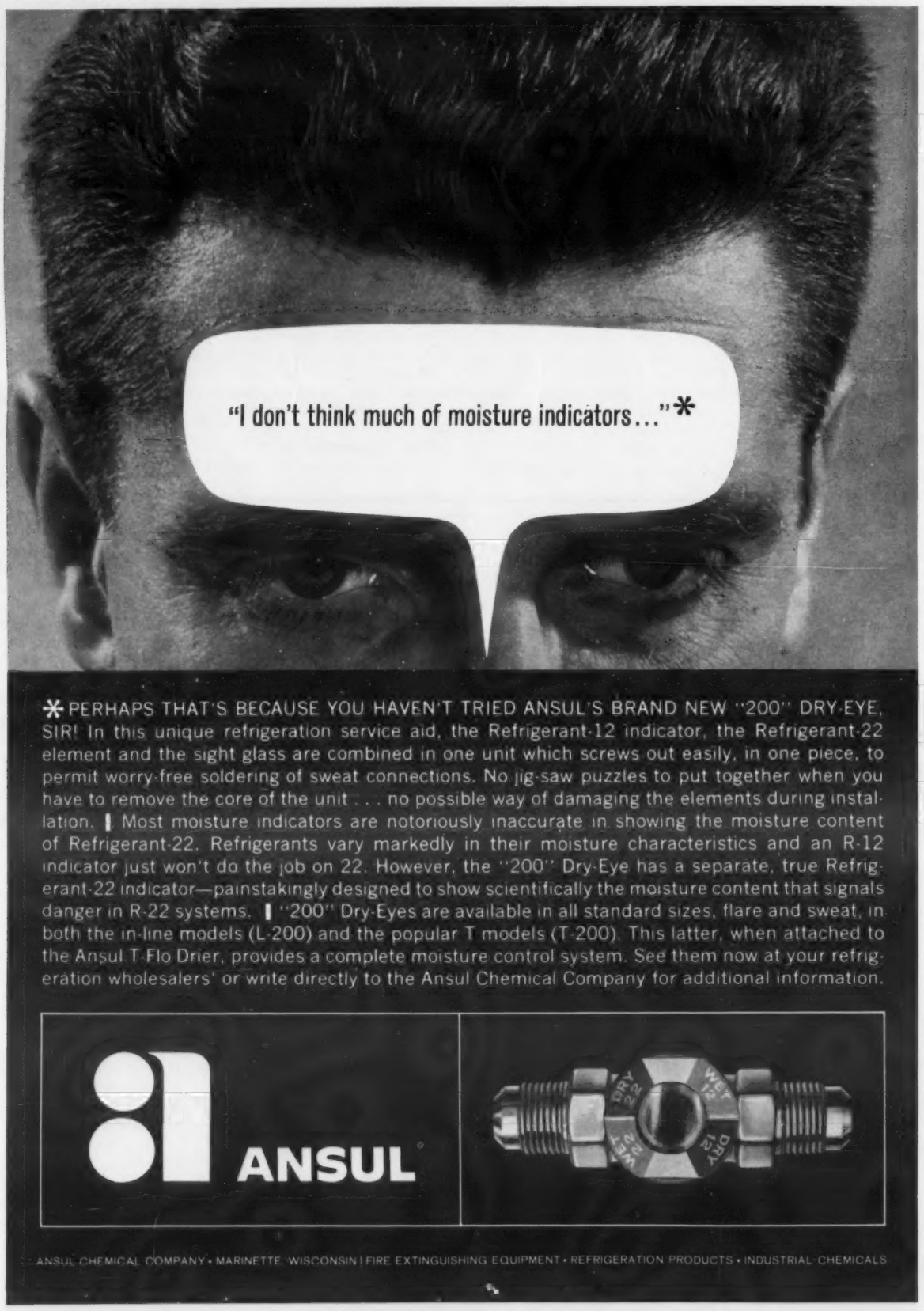
"Manufacturers confirm the trend, indicating in some cases that their sales of room air conditioners this year are running more than 100% better than a year ago."

Other recent reports indicate that although demand for certain appliances is less than anticipated by some manufacturers, room air conditioner sales are up considerably.

Heating, Cooling Aid Bohn Sales Rise

DETROIT — Reporting that first-quarter sales and earnings of Bohn Aluminum & Brass Corp. increased 29% and 14%, respectively, compared with the like 1959 period, Simon D. Den Uyl, board chairman, said at the annual meeting that largest sales gains were made by some of the newest lines, including heating and air conditioning products.

Contributions to business, Den Uyl stated, include a new line of year-round air conditioning units in 2 to 10-ton capacities introduced by the Danville Div. He added: "Danville's business thus far this year is running well ahead of 1959, and we expect the division to contribute an increasing share of our total sales and earnings as the years go by."


"I don't think much of moisture indicators..."*
*PERHAPS THAT'S BECAUSE YOU HAVEN'T TRIED ANSUL'S BRAND NEW "200" DRY-EYE, SIR! In this unique refrigeration service aid, the Refrigerant-12 indicator, the Refrigerant-22 element and the sight glass are combined in one unit which screws out easily, in one piece, to permit worry-free soldering of sweat connections. No jig-saw puzzles to put together when you have to remove the core of the unit . . . no possible way of damaging the elements during installation. | Most moisture indicators are notoriously inaccurate in showing the moisture content of Refrigerant-22. Refrigerants vary markedly in their moisture characteristics and an R-12 indicator just won't do the job on 22. However, the "200" Dry-Eye has a separate, true Refrigerant-22 indicator—painstakingly designed to show scientifically the moisture content that signals danger in R-22 systems. | "200" Dry-Eyes are available in all standard sizes, flare and sweat, in both the in-line models (L-200) and the popular T models (T-200). This latter, when attached to the Ansul T-Flo Drier, provides a complete moisture control system. See them now at your refrigeration wholesalers' or write directly to the Ansul Chemical Company for additional information.
ANSUL
DRY 22
WET 12
WET 22
DRY 12
ANSUL CHEMICAL COMPANY • MARINETTE, WISCONSIN | FIRE EXTINGUISHING EQUIPMENT • REFRIGERATION PRODUCTS • INDUSTRIAL CHEMICALS

3 Mos. Air Conditioner Shipments Ahead of 1959 In 3 Cities

DETROIT—Distributor shipments of air conditioners to dealers in the first quarter of 1960 in the Cleveland, Philadelphia, and St. Louis areas were ahead of the like 1959 period, according to association and utility reports.

Figures compiled by the Electrical League of Cleveland show that March shipments of room air conditioners in Cuyahoga County reported by league member distributors rose to 719 from 148 in March, 1959.

This brought shipments for the first quarter to 1,166, compared with only 463 in the same period last year.

March shipments of central residential systems totaled 26, against 14 a year earlier. For the first three months, the distributors shipped 103 central units, a gain of 178% compared with the year-earlier figure of 37.

Dehumidifier shipments in the area totaled 873 in March, compared with 383 in March of last year, and 1,889 in the first quarter, against 739 in the like 1959 period.

The Electrical Association of Philadelphia reported that air conditioner sales in March by distributors in a five-county area increased to 7,514 from 5,404 a year ago. First-quarter shipments totaled 16,296, compared with 13,030 in last year's first quarter.

In the territory served by Union Electric Co., St. Louis, 10 distributors shipped 763 air conditioners to their dealers, down substantially from the March, 1959 volume of 1,789. However, shipments for the first quarter were 13% ahead of last year, totaling 3,473 against 3,075.

Dehumidifier shipments by seven distributors also were down in March but up for the quarter. March shipments totaled 168, compared to 314 in the previous March, but first-quarter shipments rose 3.5% to 734 from 709 in the first three months of 1959.

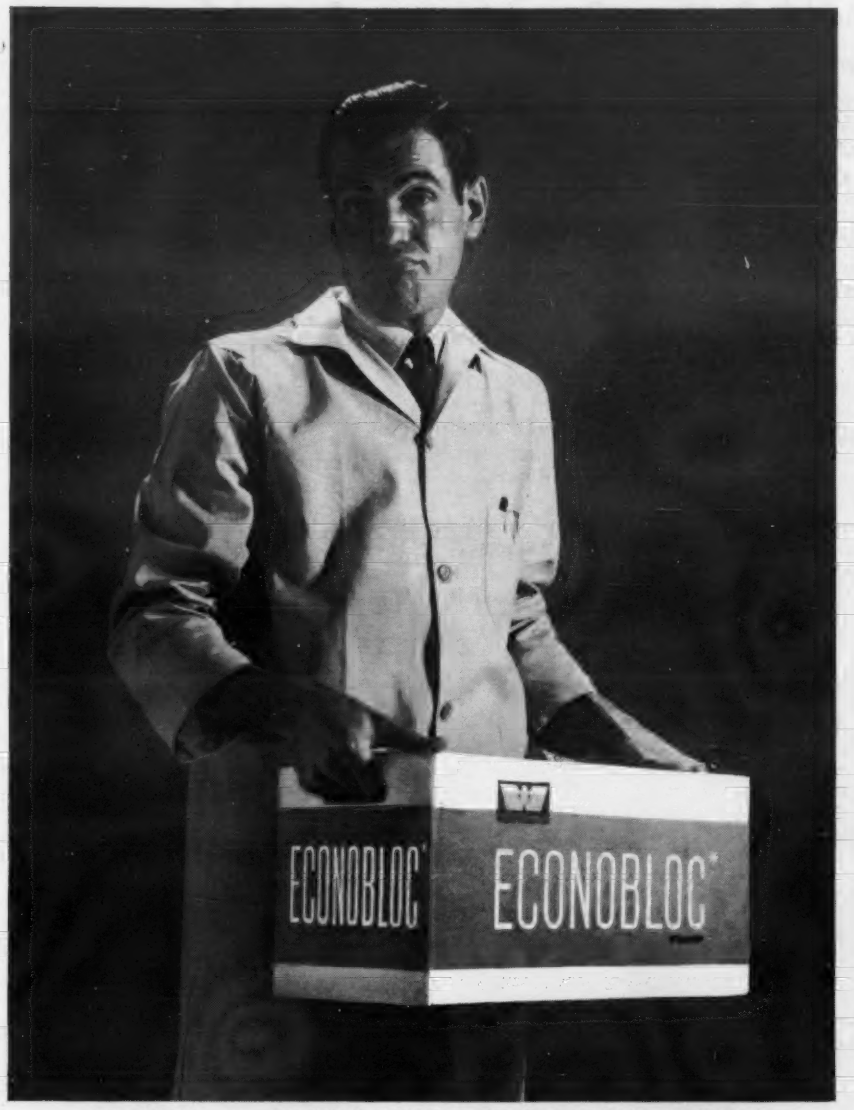
Air Conditioning Sales Buoy Borg-Warner

CHICAGO — Air conditioning sales gains were cited by Roy C. Ingersoll and Robert S. Ingersoll, chairman and president, respectively, of Borg-Warner Corp. in reporting that the corporation recorded both increased sales and profits for the three months ended March 31.

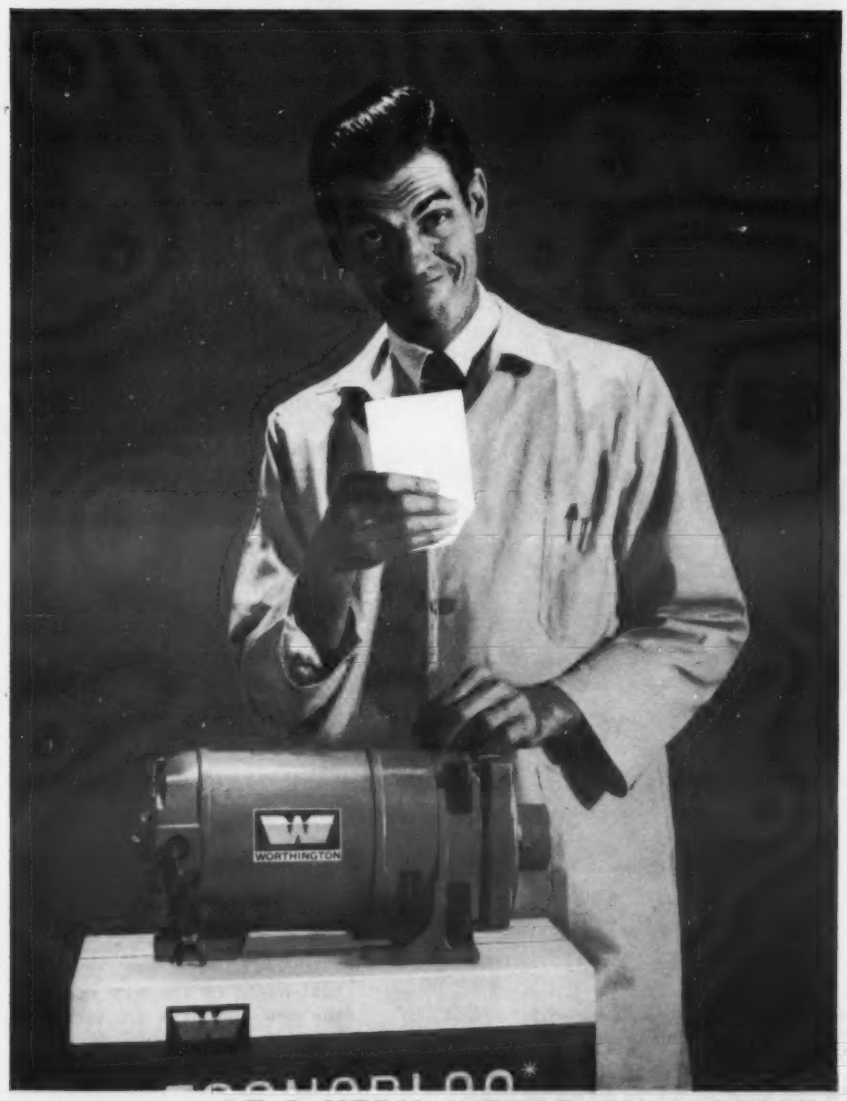
"This increase for the first quarter of this year over last does not come from uniform improvement in all the industries Borg-Warner serves," the executives said. "In fact it comes in spite of declines in several sectors of our business.

Stewart-Warner Sales Up

CHICAGO—Sales of Stewart-Warner Corp.'s Heating and Air Conditioning Div. during the first three months of 1960 were 15% ahead of the same period last year, the company reported recently.



NOW! A NEW WORTHINGTON PUMP... WITH WORTHINGTON QUALITY...



THE NEW ECONOBLOC PUMP has been designed by Worthington to do just one thing: to give you a more economical installation.

The Econobloc pump gives you Worthington quality throughout . . . at a competitive price. You save money, too, because this new pump is carried in stock in 7 Worthington warehouses across the country (Roselle Park, N. J., Atlanta, Cleveland, St. Louis, Chicago, Houston and Los Angeles).

All prices are F.O.B. warehouse.

The Econobloc's packaging is a real time saver. The package is attractive, light weight and easy to handle.

After the pump is installed you can count on years of trouble-free life in the best Worthington tradition. In the rare event that trouble occurs, warranty service is provided from each regional warehouse.

The new Econobloc pump is stocked in 6 sizes in the fractional horsepower range that delivers up to 110 gallons per minute and 115 feet in head. Additional sizes go up to 7½ horsepower. For more information write to Worthington Corporation, Section 20-11, Harrison, New Jersey.

AT A VERY INTERESTING PRICE!

WORTHINGTON

Hussmann Expands Eastern Plant 50% After 9 Months Operation

ST. LOUIS — Immediate expansion of New Jersey manufacturing facilities recently constructed by Hussmann Refrigerator Co. to serve growing demands of east coast customers was announced by John R. Caulk, Jr., president.

The multi-million dollar plant opened nine months ago at Haddonfield, N. J., near Philadelphia. It is now to be expanded by nearly 50%—from 130,000 sq. ft. of manufacturing area to 192,000 sq. ft.

The steady build-up of production at Haddonfield, supplemented by product parts and certain finished products shipped from Hussmann's St. Louis plants, Caulk said, has already resulted in faster and more economical service for eastern buyers of supermarket equipment, with a consequent increase in demand.

When the current step of expansion is completed late this summer, employment is scheduled to increase substantially. The New Jersey plant will then be in a position to produce substantially the entire line of Hussmann products.

It is expected, Caulk said, that increasing production at Haddonfield will have the further effect of releasing a part of the company's St. Louis capacity to make possible faster service for customers in other parts of the country.

Lennox To Add 3 Buildings, Remodel Plant at Marshalltown by Early 1961

MARSHALLTOWN, Iowa — Construction has started on an approximate 50,000-sq. ft. addition to the heating and air conditioning plant at Lennox Industries, Inc., located here.

The half-million dollar project reflects Lennox optimism in the fields of industrial, commercial, and residential air conditioning and warm air heating, the announcement said. Forced air electric heating will also play a big part in the future.

The project includes three new buildings. There will also be extensive remodeling of existing buildings. Target date for completion is in early 1961.

Besides the factory, Lennox maintains corporate headquarters, research laboratory, and marketing services in Marshalltown. Other Lennox plants are located in Columbus, Ohio; Syracuse, N. Y.; Fort Worth, Texas; Decatur, Ga.; Salt Lake City; Los Angeles; Des Moines, Iowa; and Toronto and Calgary, Canada.

ARI Revises Certified Unitary Equipment List

WASHINGTON, D. C. — A second-quarter "Directory of Certified Unitary Air-Conditioners" is now being distributed by the Air-Conditioning & Refrigeration Institute as a part of its "Unitary Air-Conditioner Certification Program."

The new directory lists some 2,150 unitary models of 48 manufacturers.

Dept. of Commerce Lists New Licensing, Export Opportunities

WASHINGTON, D. C. — Air conditioning, heating, and refrigeration export and licensing opportunities were listed recently by the Business & Defense Services Administration, Dept. of Commerce.

A licensing arrangement for production in Great Britain of industry products is sought on a royalty basis by Barcross, Ltd., Bentick Rd., West Drayton, Middlesex, England. The firm is particularly interested in industrial and commercial refrigeration units and accessories including filters, precipitators, unit heaters, steel radiators, fan units, etc.

A Norwegian firm, established in 1886 and employing 250 skilled workers and trained engineering staff, is interested in a license to manufacture evaporators suitable for ship and commercial refrigeration plants. Interested firms are invited to correspond with Mr. Sverre Skudem, Huso Verft & Mek. Verksted, Tonsberg, Norway, according to the announcement.

An agency is sought by Ralhen C. A. (importing distributor, manufacturers' agent), 122 B Calle Bolivar, Puerto Cabello, Apartado 45, Estado Carbobo, Venezuela, for such electrical appliances as air conditioners, refrigerators, and ventilators.

The Government of Iraq is seeking bids on 300 air coolers and 100 12-cu. ft. refrigerators (Bid No. ORD/31; bid date, May 25) and 320 air coolers and 400 table fans (Bid No. ORD/32; bid date, May 18). Bids are invited by the Director of Contracts and Purchase, Ministry of Defense, Baghdad.

Also listed is air conditioning plant, tender No. 52/60 for Iraq. Tender documents including specifications may be obtained from the Embassy of Iraq, 2135 Wyoming Ave., N.W., Washington 8, D. C. Specification fee, $42.

The China Engineers, Ltd., Alexandra House, P. O. Box 148, Hong Kong, is interested in obtaining an agency for the sale of 220-volt, 50-cycle air conditioners and room air conditioners for Malaya and Singapore.

World Trade Directory reports for this company and the Norwegian firm referred to above are obtainable from the Bureau of Foreign Commerce, Department of Commerce, Washington 25, D. C.

MOLECULAR SIEVES
This filter-drier
can remove this much water* with minimum pressure drop!
Yet it's only 3¼" long! It's another example of Detroit compact capacity!

*THE SECRET—molecular sieves. The Detroit 162-4 filter-drier will remove 25 drops of water from refrigeration systems at liquid line temperatures of 125°F. This is in accordance with ARI Standard 710-56 for liquid line driers.

Refrigerants (R-12, R-22 and Carrene 7) stay perfectly filtered while moisture and acid concentrations are kept within safe limits. The heavy duty filter traps particles as small as 10 microns. See your Detroit salesman for details about the Detroit filter-drier line, or write Detroit Controls, 5900 Trumbull Avenue, Detroit 8, Michigan for Bulletin 276.

American-Standard and Standard ® are trademarks of American Radiator & Standard Sanitary Corporation.

AMERICAN-Standard
DETROIT CONTROLS DIVISION

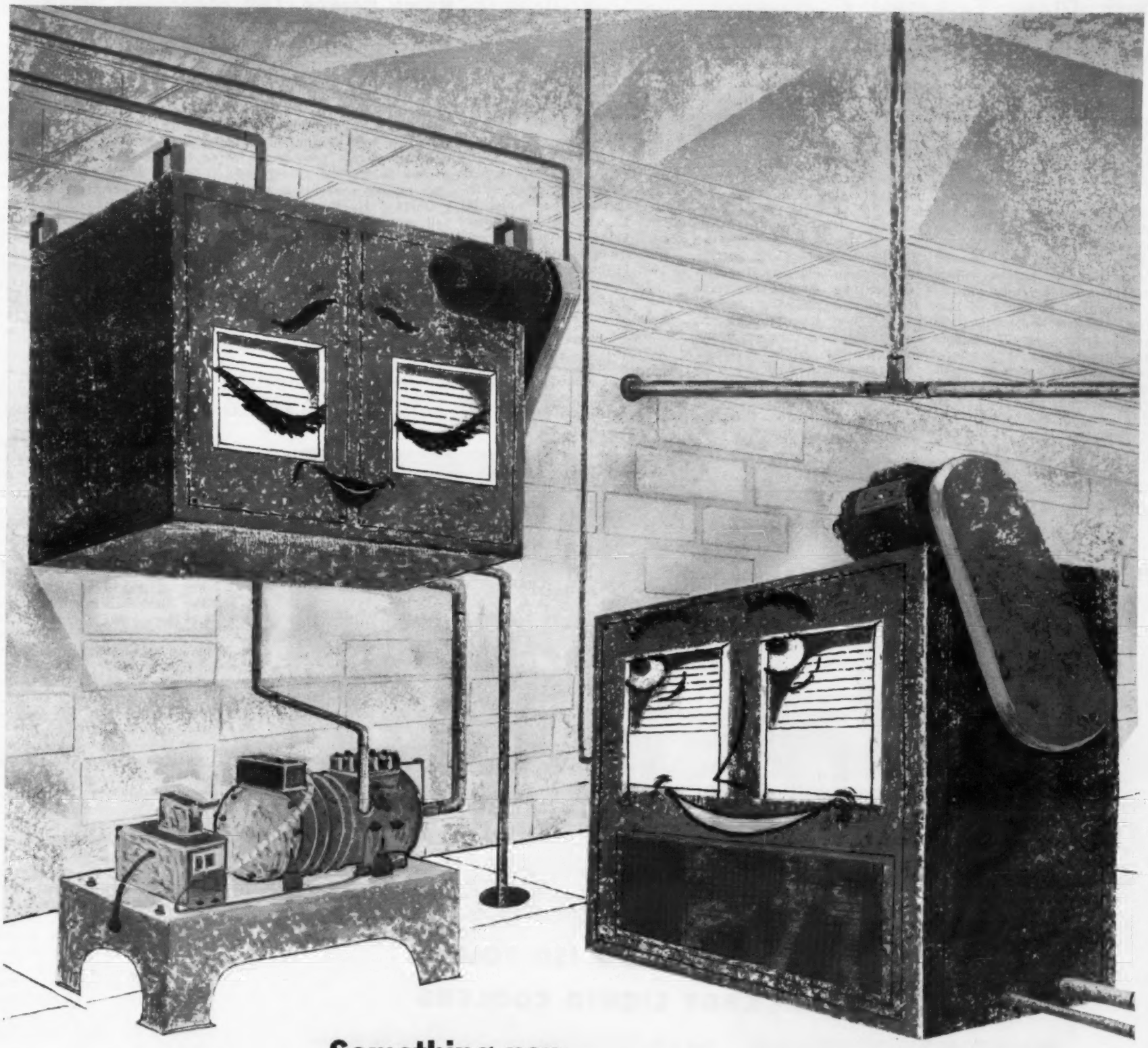
Recold--

(Continued from Page 1, Col. 1)

Jarvis, Recold president, who personally interviewed some 125 of the job applicants on Sunday, April 24.

"Some of them had walked out to the plant from downtown Los Angeles," Jarvis said.

Recold's president predicted that based on the way in which the new employes are taking to training in their jobs, pre-strike levels of production will be attained in about 10 days. The company has obtained an injunction limiting picketing by the union.



Something new for the air conditioning boys...and coils!

Now, Air Handlers from Halstead & Mitchell in 880 to 47,500 CFM Range

AH Series Air Handling Units

Halstead & Mitchell

Before you buy any Air Handler, check and compare these new H&M units, feature for feature and price for price.

See how easily H&M Air Handlers accommodate matching cooling and heating coils, with space for up to 12 rows of coil depth overall! If you like, H&M coils (from 2 to 68 square feet of face area) can be factory-installed, leaving protruding connections on either side for easy hook-up. Halstead & Mitchell makes the coils you need to match: direct expansion, chilled water, hot water, standard or non-freeze steam. Filter sections are also available.

Performance? H&M Air Handlers deliver air against static loads up to 2-inches water gauge, and do it quietly.

Construction? They're the sturdiest units in the field. Forward curved centrifugal blowers are enclosed in a heavy gauge cabinet featuring formed steel corner posts and flush mounted panels.

Price? Just ask your H&M distributor. You'll be pleased. He has all the engineering information, too. Or, you can write for Bulletin AHU-100, Halstead & Mitchell, Bessemer Building, Pittsburgh, Pa.

Air Handlers • Finned Coils • Air-Cooled Condensers • Cooling Towers • Water-Cooled Condensers

AIEE Plans Technical Conference May 16-17 In Mansfield, Ohio

NEW YORK CITY—The 11th Annual Appliance Technical Conference of the American Institute of Electrical Engineers will be held May 16-17 at the Mansfield-Leland hotel, Mansfield, Ohio.

It is sponsored by institute's Sub-Committee on Domestic Appliances and the Mansfield Section of AIEE.

Nine sessions are planned. Tentatively, 20 papers will be presented. Some subjects are:

Mechanical problems of electrical contacts and connections, standardizing small motors, matching motors to appliance loads, thermoplastics in appliance design, specifying centrifugal pumps for appliance applications, magnetic door closures for refrigerators and freezers, calibration and quality control testing of thermostats, control system design for refrigerators.

Also: Positive quality control, customer service, a hard coating process for aluminum, and a simple plastic part fabricating process.

R. E. Brooker, president of Whirlpool Corp., will deliver the keynote address. His subject will be: Should engineers and will engineering require changes in top management policy thinking—are engineers in a position to help answer that question and, if so, what must they do to accept the challenge?

B. A. Chapman, executive vice president, Kelvinator Div., American Motors Corp., will address a luncheon session on: Annual model changes vs continual incorporation of significant technological advances.

R. E. Brooks, Packaged Boiler Pioneer, Dies

MILWAUKEE — R. E. Brooks, 77, a pioneer in establishing the packaged boiler industry, passed away in Milwaukee.

He teamed with J. C. Cleaver in 1931 in founding the Cleaver-Brooks Co., manufacturer of packaged boilers.

Brooks served as president of Cleaver-Brooks from 1931 until 1943, when J. C. Cleaver became president. At that time, Brooks was named chairman of the board and served in that capacity until his death.

Ralph Becker, OHI Managing Director Retires; Burkhardt Is Acting Director

NEW YORK CITY—Retirement of Ralph H. L. Becker as managing director of the Oil Heat Institute of America after 10 years was announced at a meeting of the new executive committee during the group's 38th annual convention here.

Charles H. Burkhardt, who will continue as national secretary of the OHI Distribution Div., was named acting managing director and secretary-treasurer. He is also executive secretary of the OHI insurance trust.

Other news developing out of the OHI convention included the following:

• Radio spot announcements using big name personalities plugging oil heat are now being offered to local OHI chapters by the Distribution Div.

• Fuel Oil Committee of American Society for Testing Materials adopted a resolution urging the specifications for No. 2 fuel oil be tightened, especially with respect to viscosity.

• It was announced by OHI that 100 New England oil burner servicemen had taken the group's certification examinations on March 31 at Newton, Mass. There were two examinations, one covering high pressure gun type burners, the other, low pressure and rotary burners.

Companies having 50% of their men certified by OHI are entitled to post special certification decals in their offices, on trucks, etc.

A total of 380 men have been certified as the result of recent examinations in several cities, it was announced.

• More than a thousand companies are now participating in insurance plans offered by OHI, according to Charles H. Burkhardt, national secretary of the Distribution Div. The insurance trust has paid out more than $145,000 in life insurance claims and $72,000 in medical, hospital-surgical claims, he said.

• Membership in OHI Distribution Div. now totals 5,500, compared with 1,700 members 5½ years ago.

• Increasing participation in the "Treasury of Advertising" promotional program was announced by the Distribution Div. On the average, every oil heat user in the U. S. will receive four separate OHI promotional pieces per season.

• Top OHI "Aladdin's Lamp" award went to Larry D. Sibley of Combustion Control Div., Electronics Corp. of America. "Igniter" awards were presented to Roy C. Lindsay of Portland, Ore.; Edmund F. Marquard, Pittsburgh, and Catherine Woodbury of Quincy, Mass. A special plaque was given to Timothy R. Loizeaux of Plainfield, N. J.

• Registration for the convention totaled 1,404 persons, the largest registration in the history of the affair, according to OHI. More than 15,000 persons registered for the Oil Heating and Air Conditioning Exposition which ran concurrently with the convention, it was reported.

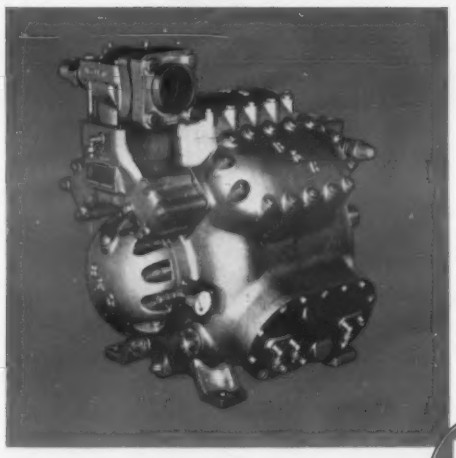
Stevens Heads N. C. Board

RALEIGH, N. C. — Election of C. V. Stevens of Salisbury as chairman, P. B. Mayo of Asheville as secretary, and W. H. Jones of Raleigh as treasurer of the North Carolina State Board of Refrigeration Examiners has been announced by James A. Dean, executive secretary.

Ranco Declares Dividend

COLUMBUS, Ohio—Directors of Ranco, declared a quarterly dividend of 35 cents per share on common stock, payable June 17 to stockholders of record May 31.

CHECKING OUT TWO 150 TON
B&G® PACKAGE LIQUID COOLERS



All B&G Package Liquid Coolers and Condensing Units from 7½ to 150 tons are equipped with this new-design B&G Compressor.

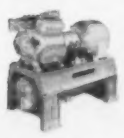
Here is the final and a very important stage in the production of B&G Package Liquid Coolers. When the four men finish this check-out, the units will be shipped with *everything mechanically correct and in accordance with the requirements of the order.*

These two 150 ton Package Liquid Coolers have completely wired panels with increment starting—*virtually plug-in units!* All major parts are made in the B&G plant...resulting in a unit unmatched for efficient operation and carrying one manufacturer's guarantee!

One of their outstanding features is the compressor, a masterpiece of advanced designing and precision manufacture. It establishes an entirely new standard of performance—smoother, quieter and with minimum vibration. All compressors have *one* bore—a few interchangeable parts will service all units, reducing maintenance problems.

BELL & GOSSETT
COMPANY
Dept. GE-47, Morton Grove, Illinois
Canadian Licensee: S. A. Armstrong, Ltd., 1400 O'Connor Drive, Toronto 16, Ontario

A FULL LINE OF REFRIGERATION AND AIR CONDITIONING "PACKAGES" AND COMPONENTS



B&G Condensing Unit

B&G Evaporator

B&G Centrifugal Pump

B&G Condenser

Richmond Home Cooling Sales--

(Continued from Page 1)

survey were a contractor and distributor whose combined total in 1958 amounted to 14 residential units but who had made no such sales in 1959.

Total 1959 residential air conditioning sales of the 10 firms listed in the accompanying table amounted to 249, compared with 294 by 12 firms in 1958.

Of the 1959 sales, 142 were in new homes and 107 in existing homes. Eighty-two were installed in new homes at the choice of the builder, and 60 systems went in at the choice of the buyer of the new home.

The ratio between builder, buyer, and existing home installations was almost exactly the same in 1959 as it was in the 1958 Richmond survey.

Also disclosed in this survey is the sale of 1,182 residential heating systems in new homes and 257 in existing homes by these 10 firms in 1959.

Nine of these were heat pumps.

These figures might seem to indicate residential heating sales were off slightly last year compared to 1958, but this conclusion could be in error because of the manner in which the survey is made. Only firms known to be active to at least some degree in residential cooling are listed. Thus, contractors doing a substantial amount of heating may not necessarily be included in this study.

The same qualification must also be placed on the accompanying data concerning commercial cooling and heating installations.

Figures on the latter show the 10 firms listed made 144 commercial air conditioning installations and 98 commercial heating installations in 1959.

Both categories represents gains over 1958 when 112 commercial cooling and 81 commercial heating installations were credited to 12 firms.

A total of 18 heat pump installations is included in the 1959 Richmond commercial installations. Only one such installation was reported in 1958.

An analysis of source of dollar volume for the 10 firms listed in the 1959 survey is provided in the accompanying table. Here it is indicated that only three firms derive the majority of their dollar volume from the residential field (1, 2, and A) while one other firm (Contractor 4) shows a 50-50 split between his residential and commercial activities.

As for concentration on residential cooling, only the No. 1 firm shows any evidence of this, crediting 65% of its dollar volume to this source. Another firm (No. 2) credits residential cooling with 25%, and Distributor A allocates 24% to residential cooling. Contractors 4 and 5 each credited 20% of their volume to residential cooling.

Eleven different makes of residential cooling equipment were listed by the 10 firms involved in the 1959 survey. Only one contractor installed more than one make of home cooling system, and his jobs were limited to two makes.

About the same number of makes of furnaces was also listed.

Nothing unusual in the way of advertising and sales promotion methods was turned up in the Richmond survey. Newspaper advertising was cited by almost every firm as being the chief medium of advertising used, but several also noted using direct mail, radio, and television.

How Richmond Residential Contractors Fared In 1959

Contractor	1959 Total	Residential Cooling: New Homes Bldr.	Residential Cooling: New Homes Buyer	Residential Cooling: Exist.	Residential Heating: New	Residential Heating: Exist.	Commercial Cool.	Commercial Htg.	Percentage of Dollar Volume: Residential Cool.	Residential Htg.	Commercial Cool.	Commercial Htg.	Other
1	70*	35	....	35	35*	25*	6	4	65%	20%	10%	5%	....
2	45*	5	15	25	450*	100*	....	....	25%	75%	.....	.....	....
3	32†	10	15	7	200†	20†	15	15†	10%	20%	8%	10%	52%
4	27*	....	25	2	53†	2†	32*	33*	20%	30%	30%	20%	....
5	25*	4	4	17	12*	48*	6*	6*	20%	28%	6%	5%	41%
6	10*	1	1	8	1	1	30†	12†	5%	1%	20%	10%	64%
7	6†	6	....	....	....	3†	20	11	— 10% —		— 80% —		10%
Dist.													
A	17†	12	....	5	171†	40†	35†	17†	24%	35%	15%	15%	11%
B	9†	9	....	....	250†	10†	....†	NA	NA	NA	NA	NA	NA
C	8†	....	....	8	....	8†	....	....	NA	NA	NA	NA	NA
Total	249	82	60	107	1,182	257	144	98	.....	.....	.....	.....	.....

*More than 1958. †Less than 1958.

WATER COOLER

10 GALLON PRESSURE TYPE

$139.50*

*To DEALERS ONLY

- STURDY • ECONOMICAL
- STAINLESS STEEL DRAIN TOP
- NICKEL FINISHED COPPER COOLING TANK
- ½ H.P. TECUMSEH HERMETIC UNIT
- PRE-COOLER
- 5-YEAR WARRANTY ON REFRIGERATION CYCLE

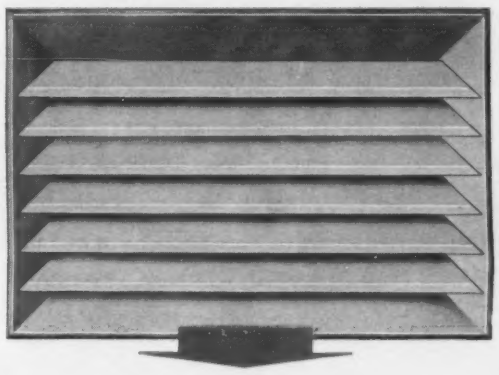
REMCOR Model CW-10A

Also 5 gallon Bottle Water Cooler—$89.50

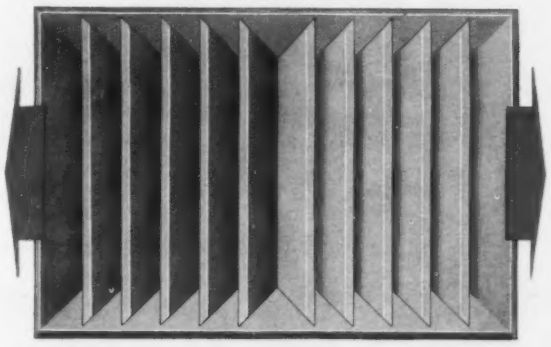
REMCOR PRODUCTS COMPANY
321 EAST GRAND AVENUE,
CHICAGO 11, ILLINOIS
manufacturers of water coolers since 1940

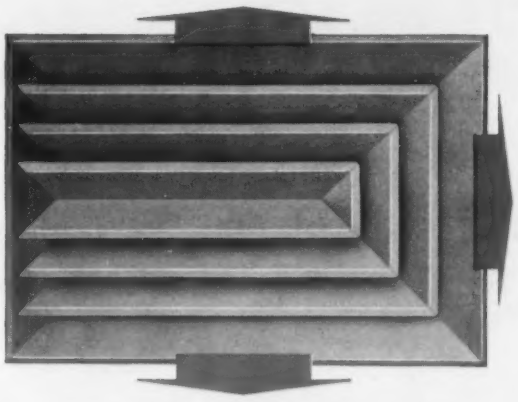
The extreme flexibility of
Type M Multi-Pattern Diffusers
means custom-selected air distribution

TYPE M 1-WAY BLOW

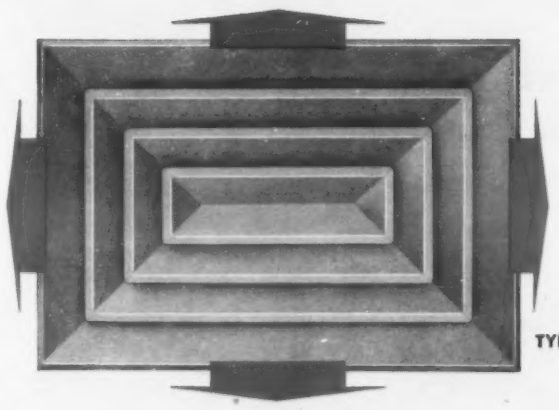


TYPE M 2-WAY BLOW





TYPE M 3-WAY BLOW



TYPE M 4-WAY BLOW

Ideal conditions for the placement of ceiling diffusers do not always exist. Walls, partitions, exposed beams, supporting columns, light fixtures . . . big offices, small offices, corridors . . . are some of the factors that can contribute to the problem of correctly selecting and locating air distribution outlets.

With Tuttle & Bailey Type M Diffusers . . . you can select units that will distribute air in a one-, two-, three-, or four-way pattern . . . and you can select from a wide range of square and rectangular sizes. An added advantage . . . if and when requirements change in the conditioned space, it is an easy matter to install a core with a different air pattern arrangement.

T & B Type M Diffusers are attractively styled and can be furnished with four margin styles . . . beveled, flat, flush, or drop-collar . . . designed for various types of ceiling mountings.

For complete details, see your nearest Tuttle & Bailey Representative or write us direct.

TUTTLE & BAILEY
division of Allied Thermal Corp. New Britain, Connecticut
Tuttle & Bailey Pacific, Incorporated, City of Industry, California

Inside Dope

By GEORGE F. TAUBENECK

(Continued from Page 1)

may not be permitted to continue working in her present position. If she becomes pregnant, she'll be allowed to keep working for six months.

After the pregnancy, occasionally she is re-hired by this company, although she may have to start all over as a new employe, without seniority rating.

When her children are of preschool age, she still will be welcome, and actually can expect to be paid for the time she must stay at home when her children are ill.

Pronounced office trends revealed by the NOMA:

1. Seventy-five per cent of the respondents permit both male and female office employes to smoke in the office without restrictions.

2. Despite recent criticisms about office Christmas parties, 65% of America's business firms support them.

3. Eighty-seven per cent of employes are permitted to receive personal mail in the office.

4. Eighty-six per cent of the companies hire married women with pre-school children, and 61% of these companies reveal that women in this group are not absent more than other clerical employes.

5. Coffee breaks and rest periods are granted by 80% of the companies surveyed.

6. Fifty-eight per cent of the companies do not reject the employment application of a spouse of a present employe because of his or her family relationship.

7. Seventy-three per cent of the interviewed firms permit employes to receive incoming personal telephone calls at all times, while 66% encourage their office employes to place outgoing personal telephone calls without restrictions.

8. Eighty-nine per cent of all American corporations have no rules or restrictions about office clothing.

The Oblique Sell

From our friends at the National Institute of Locker & Freezer Provisioners comes a new twist in sales technique. That new approach is termed: "Walkaway Selling."

Basic idea is to turn away at *just the right time* when meeting with sales resistance.

Stop crowding the prospect, let some steam blow out of his safety valve, switch into an almost disinterested soft sell approach (this must be done tactfully) when the prospect is apparently crawling into a shell.

For example: Your prospect is interested in a bulk freezer. After you explain the details to her, she decides that she wants to talk it over with her husband (who is out of town for two weeks) check prices at the butcher shop and supermarket, pay off her furniture first, and try to float a loan from her Aunt Sadie.

"Realistically you try to meet all of her objections. But with each word you utter she becomes more 'unsold.' According to the Walkaway Selling theory, it's now time to work away (figuratively) from her before you scare her into never coming back.

"Just back off a little. Don't lose interest, but evacuate your anxiety. Sympathize with her reasons for objecting, and give her the impression that you think she's SO intelligent for weighing things so thoroughly.

"Convey the feeling, without saying it, that if she doesn't buy your Thing, someone else will. Be friendly, courteous and, without becoming snooty and haughty, create the impression that this sale isn't so all-fired important to you anyhow."

According to that theory, she'll either change her mind and buy now, come back next week and buy, or walk out and never come back. What have you got to lose?

We Need More Days In the Week

If you feel short of time, here are chilling words from calendar expert Kenneth McSarin.

In the year 2,000 February will have two extra days—a 29 and a 30. This phenomenon will recur once every 1,000 years, because the leap year day we slide in every four years doesn't take up quite enough slack.

And if you think it's bad enough for a person to have a birthday only once every four years, consider the poor soul born on Feb. 30 in the year 2000.

He or she never *in a lifetime* would have a real birthday anniversary.

Stories of the Week

Important client—big manufacturer from a small town—was entertained in Chicago by sincere-tie boys from an advertising agency.

The old gent was 70 if he was a day, but he didn't seem to get a kick out of the strip-teasers. When pressed for a reaction, he observed wryly:

"Waal, I've never considered sex to be a spectator sport."

"Enjoy your vacation?"

"Yep. My wife did all the driving."

"You could take in all the scenery, eh?"

"Uh huh. All I had to do was hold the steering wheel."

In Texas a six-year-old pledged $100 a week to his Sunday School. Rector thought this was amusing, and phoned the boy's mother.

"Yes, indeed," the mother affirmed. "We want him to tithe."

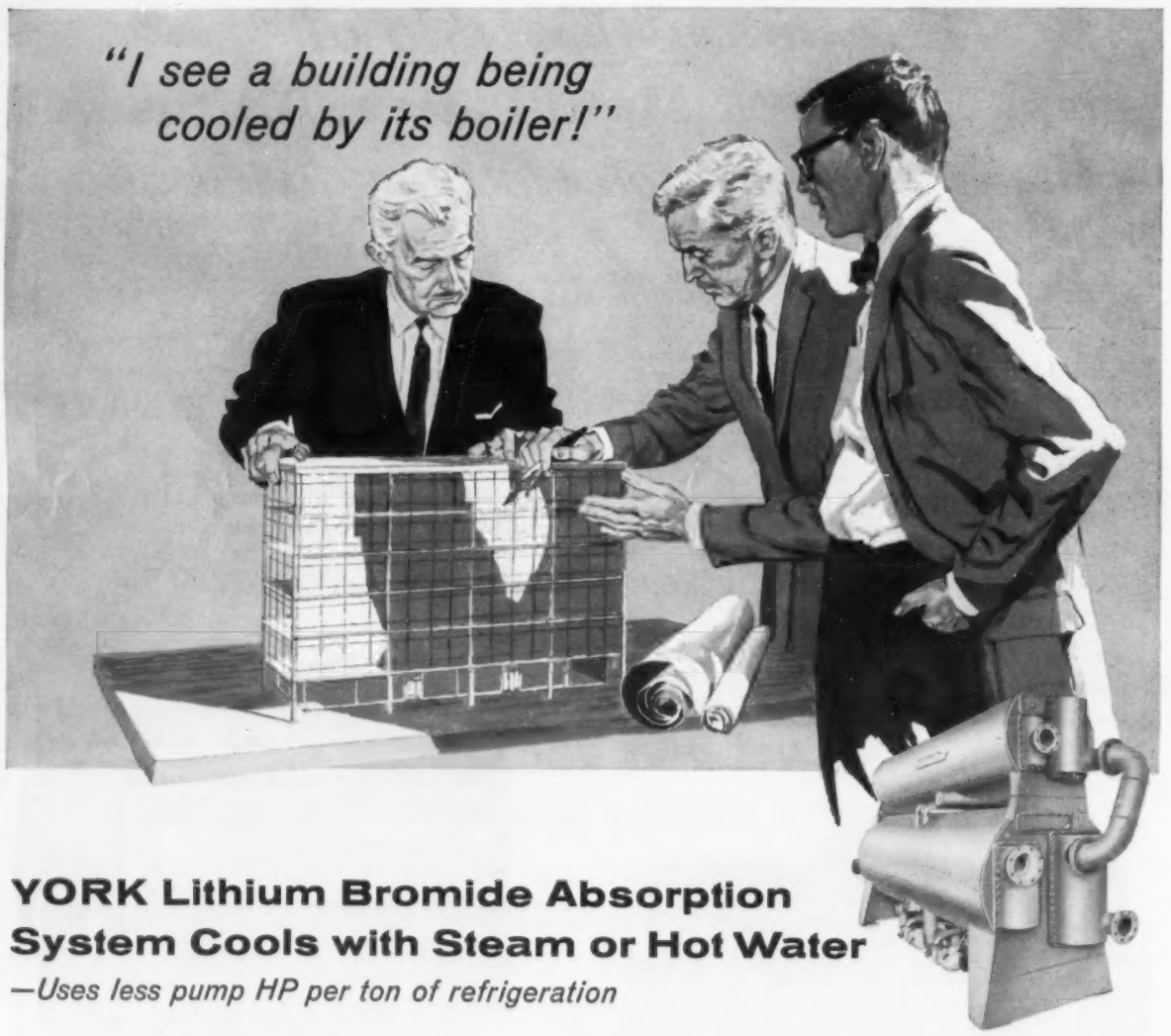
For his birthday Junior received a toy automobile on a tricycle chassis. On a Sabbath Day he was honk-honking it on the sidewalk in front of his house.

"Junior!" chided Father. "It's Sunday! Play with your car in the backyard."

"Isn't it Sunday," puzzled the boy, "in the backyard, too?"

Perhaps the finest pianist Canada has produced, Glenn Gould, is eccentric (understatement). To Ben Feakes he apologized for not shaking hands. ("A pianist shouldn't," the man said.)

"I play the mouth organ," chimed in Feakes, "but I'm not going to kiss you."



YORK Lithium Bromide Absorption System Cools with Steam or Hot Water

—Uses less pump HP per ton of refrigeration

CAN UTILIZE EXCESS BOILER CAPACITY—Unique system uses existing steam or hot water for economical cooling. Can cut operating costs up to 25% over ordinary motor-driven compressor systems. Refrigerant is plain water, absorbent is lithium bromide.

MORE EFFICIENT FLUID DISTRIBUTION—Advanced method of liquid flow cuts pump horsepower and reduces power costs. It also assures quieter operation, rapid start-up, close control. Fluids are nontoxic, non-explosive, never need replacement.

LOWER INSTALLATION COST—No expensive starters or heavy electrical conduit. Noiseless, vibration-free operation permits installation anywhere from basement to roof without costly foundations. Roof-top location saves piping and pipe shafts.

VIRTUALLY MAINTENANCE-FREE—Except for 3 small pumps and motors, the unit has no moving parts. Operates automatically, easily handles load changes. Steam valve provides simple, direct capacity control. 100 to 740 tons refrigeration.

Another YORK Trail Blazer Concept Proved in Action at *Allen Mfg. Co., Bloomfield, Conn.*—Excess boiler capacity in summer is used to deliver very economical cooling. A 230-ton York Absorption System air conditions the office and cafeteria, and a 170-ton unit chills process water.

YORK

YORK CORP., SUBSIDIARY OF BORG-WARNER CORP., 4105 GRANTLEY RD., YORK, PENNSYLVANIA
In Canada—Canadian Ice Machine Co., Ltd.

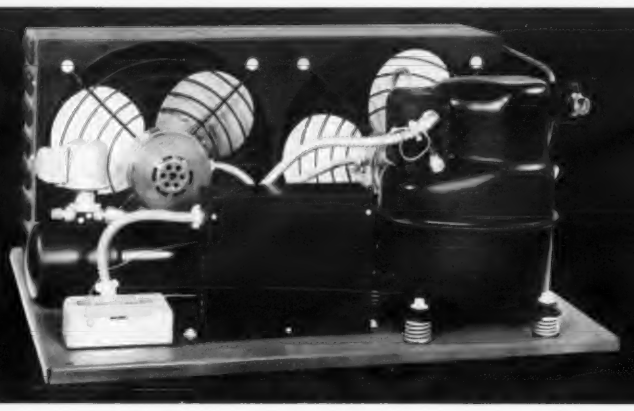
BORG-WARNER RESEARCH & ENGINEERING MAKE IT BETTER

Air Conditioning, Heating, Refrigeration and Ice-Making Equipment • Products for Home, Commercial and Industrial Applications

IT BELONGS WITH THE BEST. Bendix-Westinghouse compressors and condensing units literally do belong with the best—because they are the best! A quick check of the names of our customers will convince you of that. If you build or install refrigeration and air conditioning equipment you owe it to your customers to look into the Bendix-Westinghouse line of products for these applications. Turn the page for the latest information on the newest Bendix-Westinghouse condensing units available in 2- and 3-h.p. capacities.

Bendix-Westinghouse MOTOR COMPRESSORS

NEW BENDIX-WESTINGHOUSE R-12 CONDENSING UNITS ARE COMPACT, EFFICIENT AND LOWEST-PRICED ON MARKET!



Two new condensing units developed by Bendix-Westinghouse using R-12 refrigerant are now available in 2- and 3-h.p. capacities to installers of commercial refrigeration and air conditioning equipment.

The two new models, the BRYH200T and the BRYH300T, are ruggedly engineered for high back-pressure applications such as water chillers, bulk milk coolers, air conditioning installations and walk-in coolers.

Motor compressors of these new units are of two-pole design, which offers lighter total weight than the standard four-pole design, resulting in a marked reduction of shipping costs and space required for installation. These heavy-duty motors also feature the latest insulation system to provide longer motor life.

Full suction gas cooling, positive pressure lubrication and inherent overload protector are other advanced design improvements contained in the motors to assure longer, quieter and more efficient operation.

The new units, in both 2- and 3-h.p. capacities, are available in either 230-volt, 60-cycle, 1-phase, or 208/220-volt, 60-cycle, 3-phase models. Call or write direct for free literature describing these sensational, economy-priced Bendix-Westinghouse condensing units. There's no obligation.

Bendix-Westinghouse

EVANSVILLE, INDIANA

A Division of Bendix-Westinghouse Automotive Air Brake Company, Elyria, Ohio
Export Sales: Bendix International, 205 E. 42nd St., New York 17, N. Y.

'Team Approach'

Wholesalers, Contractors, Manufacturers To Work Together Closely In New Hydronic Sales Program Developed by BHC

NEW YORK CITY — The "team approach" to hydronic selling, with wholesalers working closely with contractors and manufacturers' representatives, was described recently as the basic concept behind a new hydronic wholesaler's sales plan developed by the national Better Heating-Cooling Council.

While taking advantage of the industry's traditional distribution pattern, the plan embodies new approaches in coordinated selling that produce greater sales volume, it was reported.

Completion of the new sales plan was announced by R. S. Doherty, BHC president, at the spring meeting of the Central Supply Association April 22. The plan is the latest announced element of BHC's united industry hydronic marketing-promotion program.

In referring to BHC's overall marketing-promotion program, Doherty noted that BHC operates under a clear-cut, precisely-directed marketing concept, with support and participation by manufacturers, distributors, contractors, and labor on a "partnership" basis.

20-Page Manual Will Detail Plan

Doherty, who is also vice president of A. W. Cash Valve Mfg. Corp., Decatur, Ill., said the plan will be available to wholesalers shortly in the form of a 20-page manual. It will be available from national BHC members as well as directly from the BHC office, he noted.

He called the new sales plan a "practical, field-tested, minimum investment program" designed to increase hydronic sales in all markets. It will thereby expand the wholesaler's business and profits, and as well, those of his customers, he said.

According to Doherty, the plan includes a comprehensive guide which shows wholesalers precisely how to set up and carry out a coordinated hydronic sales program, in conjunction with their contractor customers, and how to obtain and apply new sales and promotional tools in order to achieve maximum results from the sales effort.

'Packaged Hydronic Job' Endorsed by Plan

In addition to the team approach concept, the plan endorses the "packaged hydronic job" as a method of reducing costs not only for the wholesaler but for the contractor and consumer as well, Doherty reported.

The packaged hydronic job was described as a complete hydronic heating system—including the boiler and all controls, radiation, piping, and fittings—sold through the contractor as a package.

Also provided in the plan, according to Doherty, are detailed procedures which show how wholesalers can better aid their contractor customers.

Specifically, Doherty said, the plan shows how the wholesaler can help the contractor advance his sales and engineering skills in order to expand the contractor's hydronic business and profits in all types of markets.

The new sales plan was developed during the past year by a BHC task force whose members were experienced in wholesaler operations and sales problems. Chairman of the task force was Gordon Andrew, Detroit wholesaler who was formerly a president of CSA.

Reporting on the growth of the council, Doherty pointed out that BHC's industry marketing-promotion programs were now supported by manufacturers of residential and commercial and industrial heating-cooling equipment, as well as the Central Supply Association, Mechanical Contractors Association of America, National Association of Plumbing Contractors, and the United Association with its 240,000 members.

"With this backing," Doherty said, "BHC readily can be called a marketing group for a united industry."

Fire Protection Group Meets May 16

BOSTON — The week-long 64th annual meeting of the National Fire Protection Association will open on May 16 at the Queen Elizabeth hotel in Montreal, Que., Can.

Speakers on the program will include fire experts from Great Britain, Germany, and Japan, as well as from the United States and Canada. Proposed changes and additions to the National Fire Codes, prepared and published annually by the Association, are to be debated and acted upon.

REPRINTS SELLING FOR PROFIT.
By Frank Klein—Only $1.00 ea. Clip this ad and mail with your name and address to: Air Conditioning, Heating & Refrigeration News, 450 W. Fort St., Detroit 26, Mich.

one thermostat unit handles 12 different heating and cooling jobs!

APPLICATION	FAN SELECTOR SWITCH	SYSTEM SELECTOR SWITCH
HEATING ONLY	—	—
	—	AUTO-OFF
COOLING ONLY	—	—
	—	AUTO-OFF
	AUTO-ON	AUTO-OFF
	AUTO-ON	—
COOLING — with system interlock for separate heating thermostat	—	HEAT-OFF-COOL
	AUTO-ON	HEAT-OFF-COOL
COMBINATION Heating-Cooling	—	HEAT-COOL
	AUTO-ON	HEAT-COOL
	—	HEAT-OFF-COOL
	AUTO-ON	HEAT-OFF-COOL

PENN RIMSET REDUCES YOUR CONTROL INVENTORY

Why carry a large inventory of room thermostats when ONE unit . . . the Penn "RIMSET" . . . will control any heating-cooling function desired? You just stock variables of the subbase . . . the same thermostat simply plugs onto any one of these subbases!

And, here's another extra . . . the Penn "RIMSET" is today's easiest-to-set, easiest-to-read thermostat. When setting temperature, simply *dial the rim* . . . the extra large dial face *remains stationary!* Once you use this better thermostat, you'll want it on all of your heating and cooling installations. Try Penn on your next job!

PENN CONTROLS, INC. Goshen, Indiana
EXPORT DIVISION: 27 E. 38th ST., NEW YORK, N.Y.
AUTOMATIC CONTROLS FOR HEATING, REFRIGERATION, AIR CONDITIONING, APPLIANCES, PUMPS, AIR COMPRESSORS, ENGINES

Training the New Salesman

(1) Orientation and Job Analysis

By W. Edward Bogen, Vice President, Bogen, Inc., Columbus

I am going to cover the subject of training the new salesman. He has been hired, interviewed and hired. He has had no background in the heating and air conditioning business. And, therefore, it will be necessary for us to give him the full treatment, so to speak.

The full treatment in training a new salesman consists of four phases.

First is orientation . . . providing him with the background of the company he's going to work with. The second phase is that of providing him with an analysis of what the company expects him to do. The third and fourth phases constitute the engineering and product knowledge that he's going to have to acquire.

Orientation

Under the first heading of "orientation," we'll try to familiarize him with our company. Every company has many attributes, very few of which are ever brought up or pointed out to a new man. This is often overlooked, or just touched upon very lightly.

But if a company did not have these attributes, they would not be in business, or at least, not very long. Full advantage of these attributes should be taken to make a salesman aware that he is going to work for the best heating and air conditioning company in town.

To help him do this, the history of your company and how long it has been in business should be brought to his attention. If yours is an old established, successful business, then the transitions your company has gone through become very important to this new salesman. He sees growth and progressive management at the helm. He notes that the management is aware of the times, and is willing to change with these times, and is not in a rut. The growth of the company is insured with this policy in effect.

In our particular case, we take advantage of this fact, and tell all our new personnel that our company has been in business for 38 years, and that we have grown from approximately five or six people to the present personnel of somewhere between 65 and 70. You can further point out the details of the transition.

If yours is a new company, your expansion is probably more rapid now than it will ever be in the history of your company. Take advantage of this, so that the new salesman knows that he has a great future ahead of him, and can grow with the company.

Tell Him About Other Personnel

To further sell this man and familiarize him with your company (and let's face it, that's what we want to do), you should outline the personnel with which you have aligned yourself, and their backgrounds. Here again, his misgivings can be allayed or alleviated when he knows that he has strong people backing him up. Point out the number of years each of your people has been in the business . . . your installers, servicemen, credit men, and other sales people to whom you might point.

Many of you may have a registered professional engineer on your payroll. All of these men strengthen and fill out the company's image that you're trying to paint.

Point To Your Position Among Competitors

Last, but not least, point to the position your firm has among your competitors, and your long range plans for raising this position to the top. This being is one of the main reasons, when you come right down to bedrock, why you have hired this new salesman. He should be given the feeling that he is going to have a big part in helping you to reach this position.

Along with this, you can get in your licks about your advertising, and sales promotional activities. In this great American free-enterprise system which we work in, advertising and sales promotion takes a place of prime importance.

This new salesman probably knows, has been in sales, that you can have the best product in the world and do the best work in town, but if people are not told of your product through some form of advertising his sales will be very meager and hard to obtain. In our business, we furnish the salesmen with market reports, city bulletins, and county daily reports.

In addition, we conduct constant direct mail campaigns to our service customers (for future air conditioning leads) and newspaper advertising, and so forth. Any of this you do. Point it out so that he knows

One of the features of the 46th annual convention of the National Warm Air Heating & Air Conditioning Association in St. Louis was a symposium on "How To Obtain Competent Sales Personnel."

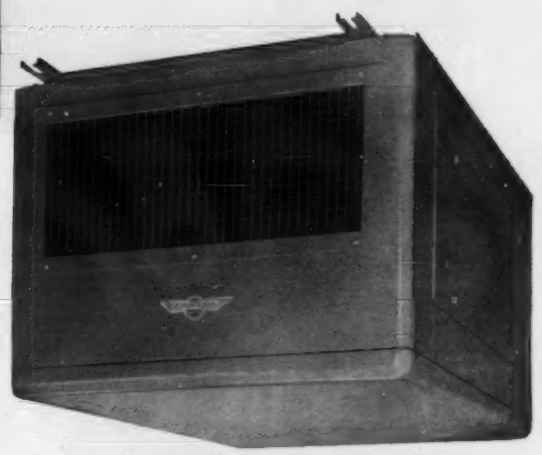
Subjects and speakers were "Why You Need Salesmen," Newt T. Hess, vice president in charge of sales, Vorys Brothers, Inc., Columbus, Ohio; "Hiring and Compensating Salesmen," Ray F. Horan, director, Institute of Dealer Management, Janitrol Div., Midland-Ross Corp.; "Training the New Salesman," W. Edward Bogen and John Hensel, vice president and sales manager, respectively, Bogen, Inc., Columbus, Ohio.

Condensed versions of these presentations, together with questions asked of speakers and their answers, are being published in the NEWS in instalments. The first article appeared in the March 7 issue. The second and third instalments, which were on Horan's talk, appeared in the April 11 and 18 issues.

Keyed to Profit!

LARKIN

Year 'Round AIR CONDITIONER



5 Models — 2 to 10 Tons

COOLS OR HEATS - DEHUMIDIFIES - FILTERS - CIRCULATES AIR

Ideal for:

STORES
OFFICES
BAKERIES
RESTAURANTS
BARS AND GRILLS
CLINICS
FLORISTS
MEAT CUTTING ROOMS

LOW INITIAL COST!
Purchase price is moderate for a unit with this high quality construction, performance, endurance.

EASY TO INSTALL!
Time is money in your business. The LARKIN Air Conditioner is engineered to make installation simple.

EASY TO SERVICE!
Replacing filters from the bottom is simple. Side panels easily removed for services of internal parts.

FACTS AND FEATURES GIVE PROOF

- Larkin air-conditioning coil—eight fins per inch, continuous fin, staggered tubes, for highest efficiency, lowest operating cost
- Heating coils for use with steam or hot water
- Compact cabinet, all-steel, rust-resistant, beautifully finished with baked-on enamel
- Fiberglas insulation
- Pressure-type, centrifugal, dynamically balanced, forward-curved fan wheels
- Self-aligning bearings
- Resilent base motors on adjustable mounts
- Two-direction, adjustable discharge grille
- Easily removed, throw-away filters
- Slotted hanger bars
- Easily installed, easy to service
- Backed by the engineering skill and manufacturing reputation of Larkin Coils, Inc., one of America's oldest makers of commercial and industrial refrigeration and air-conditioning equipment

CAPACITIES AND SPECIFICATIONS (Cooling Coil)

DIRECT EXPANSION RATINGS 80° D. B. 67° W. B. Ent. Air, 40° Ref. Leaving Air					Dimensions		
Model No.	CFM	Tons	D.B.	W.B.	Height	Width	Depth
AH-2	800	2.06	61.8	57.4	22¾	30	46⅞
AH-3	1200	3.27	60.7	56.8	22¾	35	46⅞
AH-5	2000	5.39	61.0	56.9	22¾	50	46⅞
AH-8	3000	8.16	60.7	56.8	25¾	61	46⅞
AH-10	4000	10.88	60.7	56.8	31¾	61	46⅞

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or Write for Bulletin 1039

WATCHDOG OF THE NATION'S FOOD AND COMFORT ★ LARKIN ★

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ATLANTA 1, GEORGIA

from where and how his leads are coming.

Job Analysis

Job analysis covers what we expect this salesman to do. Be very explicit and clear the smoke so that he doesn't come back to you at a later date with a statement such as, "You didn't tell me I had to do that." And "that" being almost anything he might not like to do.

We feel in our company that one of the most important things to get across to a new salesman is the same thing that Horan brought up—the fact that he is not working in an 8 to 5 business. If this is not cleared in the beginning, it's liable to come as a sudden shock at a later date. Salesmen should be hired to do a job, and not put in hours per day. This is true of any sales job in any line, when you come right down to the facts. And the salesmen should be made aware of the reasons behind this.

Dealing with Builders

In our business, for instance, builders go to work early in the morning. Many of them want to transact their business the first thing before they go out on their jobs, and spend a lot of time on a project, or wherever they might be building. And they don't like to be bothered the rest of the day. In fact, in many cases it's not possible to get hold of them later in the day.

This, of course, will vary with the builder. Maybe the builder that builds from one to 10 houses a year might have different habits than the project builder. But you'll have to make it clear to your salesman that he'll have to make his time fit theirs.

Dealing with Replacement Customers

Replacement customers are another problem. Most of the time, of course, surveys can be made during the day. But almost without exception, closes will have to be made when the man of the house is at home. The new salesman must accept this as part of the business, and make the best of it. Otherwise he'll never become a success.

His work will take many forms, and these should be pointed out to him so that he clearly understands his position in this business. Of course, the first and most important is customer calls. He's only going to get a certain percentage of the business he bids. Therefore, the more calls he makes, the more sales will result. I'm not saying that he should just go out and throw bids out and not do any selling, because that would be fatal, also.

The fact remains, though, that sales are made in direct proportion to calls. Actually, some companies base their drawing accounts on the numerical number of calls made.

Another important phase of this salesman's job is checking back on jobs, calling back on customers after jobs are completed. Maybe he might be required to do minor service adjustments . . . very simple ones. Otherwise, we don't recommend the salesman to get into the equipment.

But he will have to do layout work. He will have to make heat-gain and heat-loss calculations.

We feel that the salesman should personally know the builder he calls on. And we like our salesmen to be active in a service club and civic affairs for good potential contacts.

Also, it should be pointed out to him that attention to the details of the jobs he sells are important. If he takes care of these in advance, if he checks out the shop order so that the superintendent will follow all the details that have been discussed with the homeowner, or the home builder, if he does this in advance, the job will be so much smoother, and give him so much more time to make more sales. After all, this is what you and he are both looking for.

To a new man, many of these things are just a bunch of words. But through his training period, they must be repeated again and again, and in much more detail, until they begin to take form. We must always keep him mindful that we, the company, will teach him these things and stand behind him.

Man May Be Out on His Own In 4-6 Weeks

I tend to disagree with Horan in his statement that in two or three weeks the new salesman will be able to go out and do a job of selling. I think that in the instance of a new man who has never been in our particular business it takes a little bit longer to pick up all the necessary information that he'll have to have. In a month to six weeks, he'll be out on his own. But I think it will take sometime longer than that before he's really making money for the company as well as himself.

The next step in our job analysis is the results we expect from him. It should be pointed out that he'll have ample time and training to become a finished heating and air conditioning salesman. It should be explained that you recognize that he'll not pay his way for at least three to six months, but after this period he'll be expected to begin to make a return on a rather large investment that you have made in him. Don't pull any punches on the fact that this is a considerable investment on your part.

At this stage, his relationships with the installation department, service department, credit department, etc. should be pointed out. We consider a sale completed only when the job has been installed, checked out, and, last, but not least, paid for. We require our salesmen to call back after completion.

This is required not only for good customer relations (and this is very important, it always makes a customer feel better to think that the salesman thinks enough of the job to come back and go over it and see that everything is satisfactory) but it's one of the best ways that we know of to pick up additional prospects.

Practically always owners will talk to someone who is needing a new heating plant, or like the idea of air conditioning to a point where they're ready to do some thinking about it, and you generally pick up a new prospect. I won't attempt to cover this subject in detail as these are different for each company and organization. But the salesman's relationship with each customer should be defined.

You may think we spend a lot of time on these first two phases, but it has been found over a period of years that it pays great dividends.

(Next: Engineering and Product Knowledge will be discussed by John Hensel.)

UCON IKE's Written Policy:
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America's newest refrigerants UCON Brand Refrigerants, come to you with a fresh, new idea in service . . . symbolized by UCON IKE.

This is service planned for *you*, and backed by a unique, published marketing policy. It's service that reaches you regularly through friendly, competent, imaginative people—the kind of people who can make doing business easier, peak seasons or slack.

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Human Safety Group Warns Against Fire Hazards In Modern Air Conditioned Bldgs.

Suggests Air Conditioning Contractors Insist on Adequate Safeguards for Occupants

DETROIT—"Flimsy firetraps is the term fire-protection experts apply to many ultra-modern design buildings. Split-levels, windowless structures, absence of interior fire-walls, and air conditioning systems that speed the spread of fire and smoke all increase hazards. Worst risks, say insurance men, are the new type supermarkets, but schools are a close second."

The above material was published as a "business bulletin" item in a recent issue of the *Wall Street Journal.* An inquiry addressed to the editors of the *Wall Street Journal* as to the source of such a statement brought a reply to the effect that most of it had come from reports and bulletins issued by the "Committee on Human Safety" of the American Institute of Architects.

"I don't believe we have used the expression 'flimsy firetraps' but otherwise the statements made in the *Wall Street Journal* piece are in line with what the members of the AIA Committee on Human Safety believe to be true about some of the fire hazards in present-day construction," says John C. Thornton of Royal Oak, Mich., chairman of the committee.

Thornton, now retired, was for many years architect for Detroit Edison Co., and has taken on this committee work because he feels so strongly that unless proper preventive and safety measures are taken, many lives may be lost. He is particularly well suited to analyze the air conditioning factors because he was architect for Detroit Edison Co. when that utility company built one of the first completely air conditioned, fixed window office buildings in the world.

The growth of air conditioning and its effect upon architectural and building construction practices has brought about concern to those to whom safety to life is a major consideration, Thornton points out.

One area relates to the fact that an air conditioning system forms an excellent path by which smoke can course through a building, particularly if the blowers are operating. And all the studies show that smoke—coupled with panic, which it induces—is the big hazard, the big killer in fires that result in fatalities.

Thornton cited cases of air conditioning and ventilating systems acting as blow torches and filling buildings with smoke which caused panic and fatalities.

'Operation School Burning' Tests

"In the recent 'Operation School Burning' studies which the Los Angeles fire department conducted following the disastrous school fire in Chicago, Thornton related, "where there were open stairways untenable smoke conditions were reached in as little as two minutes on at least one entire floor above the fire.

"These tests, together with experience from actual fires which have shown that smoke is the greatest hazard to human safety, have pointed up the importance of doing everything possible to prevent smoke from a fire to circulate rapidly through a building.

"Thus, special precautions must be taken to keep the air conditioning system from being a smoke spreader. This means that a smoke-detection device, probably electronically operated, should be used to turn off motors and close fire dampers in ductwork, rather than the fusestat heat-operated type of device."

"The Los Angeles tests clearly showed that sufficient temperature to fuse a heat operated device followed untenable smoke by several minutes which indicated that heat operated dampers are of little value for life safety. It also showed that heat operated closers for fire and smoke doors are not fast enough to stop smoke, and that untenable smoke will be reached in an open section of a burning building before a thermostat operates a detection system."

Adequate Escape Exits

The other "danger area" in which air conditioning plays a part is that of the provision of adequate escape exits. Actually, air conditioning is an indirect factor in this instance, in that because it makes possible the use of smaller windows, or no windows at all, more and better-protected exits must be provided. While this is primarily an architectural problem, Thornton believes that air conditioning contractors should be aware of it and insist that proper escape exits be provided in buildings with no windows or with windows too small for human bodies to go through.

The 1959 Editions of the Building Exits and BOCA Codes require one window in

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each bedroom of a dwelling to be low enough and large enough for escape or rescue if there is no outside door from the room. This could well apply to other occupancies, especially air conditioned buildings where in case of fire an open window might furnish the only fresh air necessary to life until rescue.

The AIA's Committee on Human Safety makes these points in regard to measures to be taken to insure maximum protection for human lives in the event of fire.

"All exit stairs should lead directly to out-of-doors and should be enclosed, even if structure is only two stories high. . . . Where stairs must terminate inside building, this floor and all floors below should be completely sprinkled and cut off from all hazardous locations by fire doors. . . . Private rooms should never be used for access to escape stairs.

"One principle of safe design is that there must be two avenues of escape from all portions of a building, either enclosed stairs terminating at exterior points or exterior escape stairs with proper safeguards that will make them safe exits.

"As fire and smoke can quickly spread throughout a building through ventilating ducts, there are several precautions that are "musts" in hotel design. There should be smoke-detection devices in ducts to stop fans, sound an alarm, and notify the fire department, and there should be dampers with fusible links at all fire walls and floors. Air intakes must be kept away from locations where there may be combustible materials. This means never near the ground.

"In certain cases exhaust ducts can be used for venting smoke if system is properly designed. No fans should vent into a corridor. Vents from kitchens should be carefully designed as many fires originate there. CO_2 should be provided in ducts and canopies in kitchens."

Following are some other points which Thornton has made in presentation on methods to assure fire-safe buildings, which should be taken into account by those installing air conditioning equipment:

"Vertical openings, such as openings around laundry chutes, dumbwaiters, pipes and ducts, carry fire quickly into walls and floor spaces. They often open both to the basement and attic. It is part of good design to see that these spaces are firestopped.

"All openings around ducts entering walls and ceilings should be tightly sealed with plaster or metal so that fire and smoke cannot get into concealed spaces to other areas. Where small openings are difficult to reach as in old buildings they may be packed with mineral wool but it must be tightly packed to be of value.

"The heating plant is a potential hazard. The danger can be reduced by careful planning. Sometimes the plant is located in a separate structure, as is usually required in schools. When in the building, it is impressive that it be placed in a fire resistant room which should be vented to the outside for makeup air as incomplete combustion generates toxic gases.

"The vent would also serve as an escape for smoke in case of fire, reducing the chance of explosion because of builtup pressure. No fuel burning equipment should be placed in an avenue of escape.

"Valves and switches that may need to be operated in case of fire should be placed so that they can be easily reached by firemen and should be plainly marked. Reflective tape or paint is desirable so that firemen can find them easily with a flashlight."

One type of occupancy which Thorton considers particularly dangerous is the modern food supermarket. A major problem here is lack of exits, and the piling up of combustible material in the access to rear exits. Thornton has made these recommendations for supermarkets:

A separate ventilating or air conditioning system should be installed in the service section so that smoke and flames would not be carried into the sales section.

The incinerator should be in a fire retardant room or better, in a separate building. This also applies to the heating plant.

As many fires start from the refrigerating equipment, screen guards should be required so that merchandise piled near it cannot cut off the air.

Copenhagen Hostelry To Be Air Conditioned

JAMAICA, N. Y.—The Royal hotel, Copenhagen's newest hostelry and "the first of its kind in all Europe," will open its doors to visitors early this year.

Operated by a Scandinavian Airlines System subsidiary company, SAS Investment, Inc., the 22-story Royal will have 275 air conditioned rooms and such other "Royal" features as Finnish sauna baths, Swedish massage by experts, sun or carbon lamp treatments, complete nursery facilities, and a lobby shopping center.

J. H. Westerman Dies

WASHINGTON, D. C. — J. Harry Westerman, 72, owner of Westerman Commercial Refrigeration & Air Conditioning Service, died recently.

NEWS readers are invited to write to the editor giving their opinions on any subject of interest to the industry.

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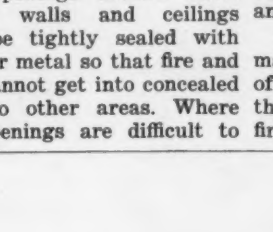
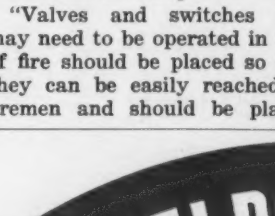
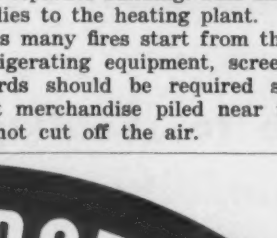


PDPak SAVES TIME!

New carton is sealed with color-coded tape that speeds identification, makes opening fast and easy on the job!

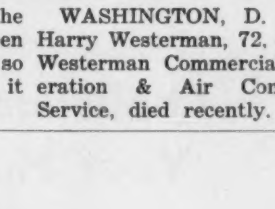


PDPak SAVES TIME AND LABOR! Reel-type design of carton allows tube to be rolled out easily or paid out quickly on the job!



PDPak SAVES LABOR!

Convenient eight-sided center hole makes carton easier to pick up—gives a firmer carrying grip at all times!



PDPak SAVES SPACE!

Circular cartons stack easily and compactly—take up less storage and warehouse space needed for stocking!

PDPak Provides Greater All-Around Tube Protection!

In stock or on the job, the advanced design of the new P-D Pak carton fully protects tube at all times from damage.

The tube stays snugly in the protective carton, even on the job, until the moment it is installed, assuring no dents, no dirt, no damage.

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by

Jimmy Hatlo

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IN
OUT
RUSH
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CROSS FILE
THANK AND A TIP OF THE HATLO HAT TO JACK HERBERT, 350 ASTOR ST., CHICAGO 10, ILL.
BUT SLOPHONUS HAS A DESK LIKE THE CITY DUMP, AND HE CAN COME UP WITH ANYTHING ASKED FOR ····
YOU WANT LAST YEAR'S ORDER DUPLICATED? OKAY ···· HERE IT IS···· CONSIDER IT DONE··· THANKS ···
JIMMY HATLO
4-4
SOAP

Challenge to Heating Dealers: Your Humidity or Your Life

WHY NOT treat your family in the same solicitous fashion that you coddle your cigars? Isn't the health of your loved-ones as important as the freshness of your smokes?

Cigars, of course, are kept properly moisturized in humidity-preserving humidors. Otherwise they'd crumble quickly into crackling dust. But homes?

Another parallel: kiln-dried wood is "killed" vegetable fibre. When its moisture is removed, *life* departs therefrom. Kiln-drying has its purposes, but the wood is *dead* thereafter.

Same thing happens to homes, and to PEOPLE, if proper humidity isn't maintained by accessoried heating systems during the frosty months.

A home that may require basement dehumidifying (because of condensation) in the summer, usually needs moisturization of its heated air during winter.

Residential heating "cooks" moisture from the air unless ameliorated.

The following facts concerning harmful effects of too-dry air are unquestioned (Important question is: What can we do about it?) Said facts:

Going through the motions without really humidifying—or flooding the air with excess humidity—are equally bad. It's important to raise relative humidity to the amount (and no more) which inside air will carry and hold continuously.

Dry air absorbs moisture wherever it can find it. Chief source of added moisture in home air is perspiration from human bodies. Consequence is drying and irritation of skin and respiratory membranes.

Colds and sinus troubles result, and resistance to infections is lowered.

Dry air dehydrates wood in furniture, causing chair rungs and joints to shrink and become loose. Finishes granulate, also, if dehydrated.

Dry air also robs upholstery, draperies, rugs, and other fabrics of resilience and beauty, and causes them to wear and split. Bookbindings warp, works of art deteriorate.

Moreover, desiccated air works havoc with home construction in general. Joists and studs shrink and split, nails conk out, plaster cracks, doors shrivel, etc.

It should seem obvious that every heating dealer and contractor would be eager to add humidification to all his installations. Such is not the case, unfortunately. So price-conscious are many of these fellows that some are prone to recommend *minimum* (bare bone) installations.

"They sell the LEAST possible," mourns a sales executive who prefers to remain anonymous.

"I've never encountered a business," he continues lugubriously, "which has so little interest in upgrading itself, increasing its sales volume, and creating an industry image of quality."

A simple add-on accessory (such as a winter humidification device) can do much to create satisfied customers.

Why not try SELLING SATISFACTION then, instead of continually short-changing customers?

Perhaps a policy of this nature would end the era of profitless volume which heating dealers have been deploring so volubly.

Proper humidities, incidentally, have enormous effect on personal health. For instance: they're beneficial to hearts and bloodstream-performance.

"Better humidities mean longer lives!"

Right there you have what could become a great sales-promoting slogan. Even more, it should be an awakener for those pathetically apathetic hangers-on who, unfortunately, make competition rough for the really good heating contractors.

Better humidity can be a life-saver, both personally and for sick businesses. Now is the time to promote it!

I would like to propose a Fifth Freedom—freedom from ignorance. Think of all the crime, misery, and sorrow that is caused by ignorance. People who think, and who are intelligent, feel an obligation toward their fellows and the world, that ignorant people never experience.—MATTHEW ADAMS.

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AIR CONDITIONING HEATING & REFRIGERATION NEWS

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'The Conscience of the Industry'

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From the Files of the News

25 years ago . . .

Recent dust storms in the southwest part of the United States have furnished a new sales argument to dealers of air conditioning equipment, according to a recent survey conducted by the GE Electric Air Conditioning Institute.

Two intensive factory training courses by York Corp., designed to give distributors' men and field engineers the benefit of factory engineering experience with York Ice Machinery Corp. 1935 air conditioning equipment.

Problems of humidity and the means of its control are treated in "The Trend in Summer Air Conditioning," illustrated booklet issued by Bryant Heater Co.

Warren Clare of Clare & Co., Atlanta, reported two interesting air conditioning installations, one residential involving the disguising of a cooling tower as a bird haven and the other a restaurant job, cooled by a system comprised of four store "Weathermakers" served by eight compressors.

10 years ago . . .

NLRB dismissed an unfair labor practices complaint against Rash Saville Crawford, Inc., Cincinnati refrigeration and air conditioning contractor, on the grounds that the contractor's operations were essentially local in character.

Research conducted by the U.S. Department of Agriculture on prepackaging fresh vegetables has shown that refrigeration in the store was the best means of controlling decay in fresh spinach and increasing shelf life. . . . Hill Equipment Corp., Niagara Falls commercial refrigeration and air conditioning dealer, reported success in using radio advertising in promoting equipment to commercial prospects.

By running block tin beer lines from the beer cooler in the basement to the tap stand through 6-in. duct cooled with air from the cooler, the Laroche hotel in Rochester, N. Y. holds beer at the desired even temperature.

The Mill End Shop, a Dayton store specializing in decorative fabrics, solved a major lint and dust problem with the installation of a 5-ton packaged Chrysler Airtemp air conditioner that also appeals to browsing summer customers.

The House Ways and Means Committee has tentatively voted to eliminate or change some of the manufacturers' excise taxes. Present 10% tax on household freezers would be cut to 7% while refrigeration and air conditioning would be taxed 10%.

50 years ago . . .

From the RECOLD MUSEUM

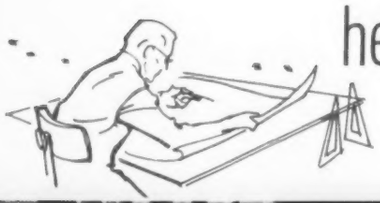
These 50-to-60 years ago items are from the Recold Museum Library, maintained by Hy Jarvis, Recold Corp. president.

The Creamery Package Mfg. Co. has on exhibition at Madison Square Gardens, New York, a small freezing and ice cream making plant. An electrically driven Barber refrigerating machine is in operation in conjunction with a soda water and ice cream parlor. The ice cream is frozen in continuous disc freezers and without use of ice. The frozen cream is stored in a brine tank also cooled by the machine, and some ice is manufactured for packing ice cream for city delivery.

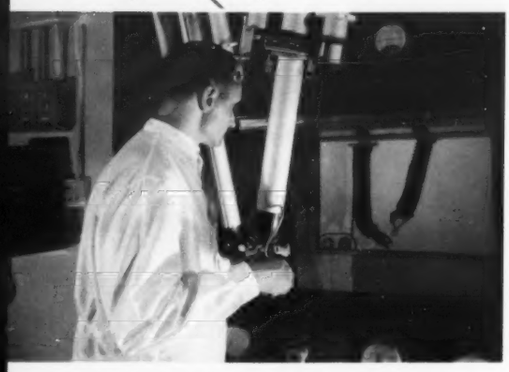
DUNHAM-BUSH

"GOES CRITICAL"

at Picker Research Center, where the handling of "hot" isotopes demands dependable, safe, efficient control of air movement and temperature.

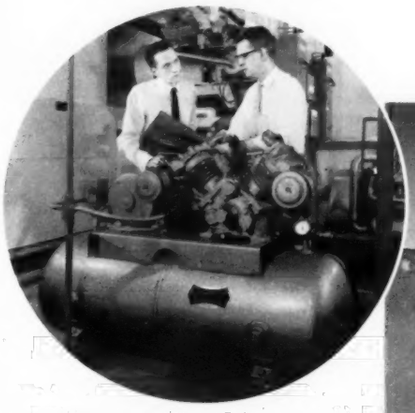


heating and air conditioning a radioisotope laboratory...

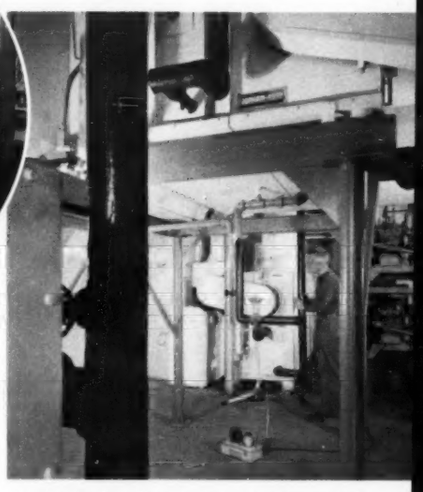


Outside the Center's million-curie test cell, looking in on the fascinating "finger" operation of the Master-Slave Manipulators as they encapsulate a radioactive material. Failure of the air system here would seriously, perhaps disastrously, impair the protective function of the cell's $10,000, 61" thick glass and zinc bromide window. Part of the cell's enormous 40-ton access door of steel and concrete can be seen in the background.

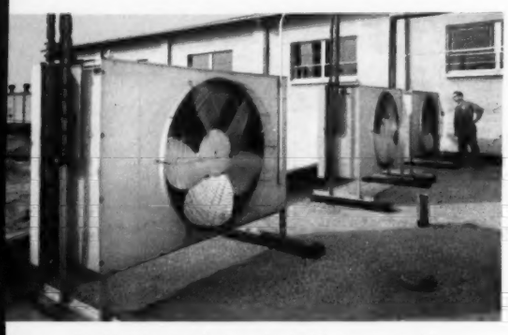
In the course of its many contracts, Dunham-Bush has satisfied an imposing variety of industrial and commercial demands for optimum heating, cooling, and air conditioning. The greater part of these demands has been commonplace. Others have been of a highly critical kind, such as those involved here at Picker X-Ray, where extremely sensitive instruments to trace and measure radioactive material are developed, and where new medical and industrial uses are created from x-rays and isotopes. E. W. Coleman, Picker's Isotope Department manager, has made the point directly,". . . . the handling of radioactive materials, the . . . proximity of the Center to residential and industrial areas, the need for in-plant safety, employee comfort and well-being, taken together place tremendous responsibility on the air system."



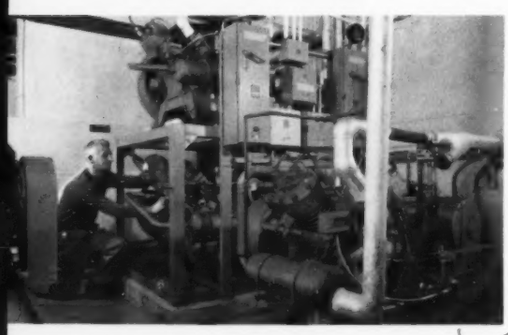
A dependable Brunner Air Compressor provides pressure for the air-operated tools in the Center's second-floor machine shop.



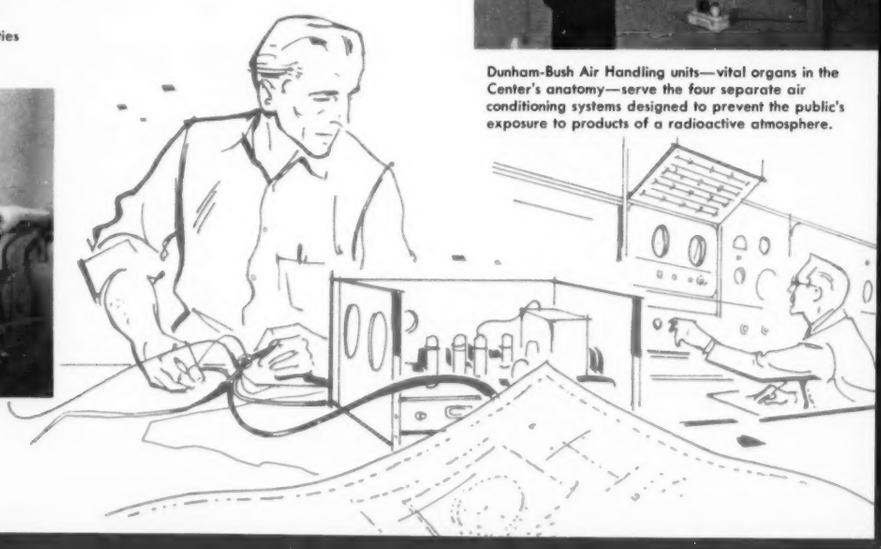
Dunham-Bush Air Handling units—vital organs in the Center's anatomy—serve the four separate air conditioning systems designed to prevent the public's exposure to products of a radioactive atmosphere.



Roof-Top Dunham-Bush Air Cooled Condensers enable the Center's air conditioning systems to function without water; and problems of excessive water impurities and their disposal naturally are avoided.



Heat-X Heat Interchangers and Brunner Compressors are integral parts of the Center's all Dunham-Bush air conditioning system.



the vital responsibility of a single source

In tastefully appointed surroundings made atmospherically comfortable by Dunham-Bush air conditioning, one of the Center's receptionists greets visitors.

In winter, Dunham-Bush Cabinet Convectors with the manual adjustment feature warm the Center's non-air conditioned stairwells.

Dunham-Bush Thermo Vector Radiation sharply reduces downdrafts, and circulates warm air to every corner of the Center's engineering department.

Dunham-Bush Unit Heaters warm the Center's busy warehouse in winter. They also are used to circulate air for summertime comfort. Extension tubes funnel the air downward, past structural elements.

Architect & Consulting Engineer—*McGeorge, Hargett and Associates—Cleveland, Ohio*
Mechanical Contractor—*The Feldman Brothers Company—Cleveland, Ohio*
Wholesaler—*Cleveland Hermetic & Supply Company—Cleveland, Ohio*

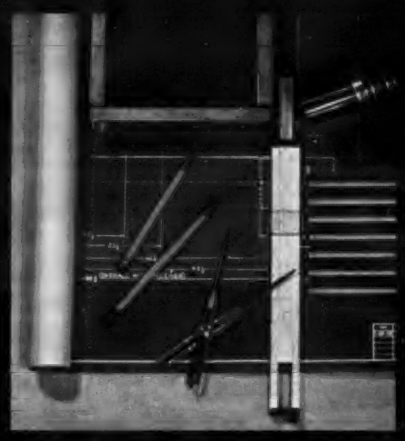
DUNHAM-BUSH . . . satisfying the common and uncommon heating and cooling demands of our time

Belle Chasse High School, Belle Chasse, Louisiana, is served by these Dunham-Bush products: Air Handling units, Comfort Conditioners, Wall Jet Unit Heaters, Electric Defrost Low Temperature units, Baseboard Radiation, Cabinet Convectors, and Unit Heaters.

Cardinal Glennon Memorial Hospital for Children, St. Louis, Missouri, uses Dunham-Bush Vacuum and Condensation Pumps, Convectors, Radiator Traps, F & T Traps and Strainers, and Unit Heaters.

And at IBM's new Engineering Laboratory, Kingston, New York, the following Dunham-Bush equipment is installed: Finned Tube Radiation, Unit Heaters, F & T Traps and Strainers, Bucket Traps and Strainers, Air Handling units, Convectors, and Low and High Pressure steam specialties.

To specifiers, buyers, and users of Dunham-Bush equipment, the reassuring significance of the Picker installation is simply that whatever the demands for performance proficiency, this single source responsibility meets them with the same high-quality equipment . . . equipment that always ensures top-drawer efficiency and safety.



Pictorially expressed above are the ingredients of the directed effort made by our engineering and production team in the interests of public and private comfort, safety, and productivity.

Call on Dunham-Bush for responsible performance of any heating or cooling job.

DUNHAM-BUSH

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McGrath Tells BRI

'Total Air Treatment' Could Improve Health, Comfort and Free Hamstrung Bldg. Designers

NEW YORK CITY—If the concept of "total air treatment" were adopted, building design would not be hampered by the present requirement or "fetish" for mechanical ventilation, and windows could be employed for the sole purpose of providing a view, suggests William L. McGrath, chief engineer of Carrier Corp.'s Unitary Equipment Div.

This discussion was part of a symposium on air cleaning and purification held by the Building Research Institute during its recent spring conferences here.

Several reasons for not taking substantial quantities of outside air into controlled living areas were offered by McGrath:

"Because in our urban areas the outside air is contaminated with wastes from industry, commerce, and transportation. . . .

"I hope I am not out of place in pointing out the ever-present possibility of sudden air contamination by radioactive debris. . . .

"With a constantly changing menu, the outside air seems to provide a never-ending diet of pollen, spores, and other allergens that affict large segments of our population.

Tremendous Cost of Cleaning Cited

"The cost of cleaning which follows from the introduction of large quantities of dirty air, either by mechanical ventilation or through open doors and windows, tends to be overlooked in the over-all accounting in the home or business. Yet, one authority has estimated that the price of air pollution amounts to approximately $65 per year for every man, woman, and child in the country, and a substantial part of that figure represents cleaning and deterioration costs.

"In buildings employing mechanical ventilation, the cost of heating and cooling the enormous quantities of outside air introduced represents an economic waste of great proportion. For example, an office building of 500,000 sq. ft. floor area employing one air change per 30 minutes for so-called 'ventilation' would require an air conditioning plant about 50% larger than if only the interior air were treated.

"This is an important cost penalty. In addition, it represents that much more connected electrical demand on the powerhouse, the distribution system, and the transformers, and at a very poor load factor.

"In a climate like New York City the owner of such a building would have to spend $3,000 or $4,000 more for power used in summer air conditioning. The added cost of heating this enormous quantity of air would be on the order of $7,000 to $10,000 per year. All in all, it is a substantial economic waste."

It is McGrath's opinion that ventilation is being required today largely because of tradition. Ordinary air leakage provides adequate control over oxygen and carbon dioxide levels, he indicated, and air conditioning has replaced the need for ventilation for purposes of cooling.

Building design, McGrath also emphasized, is hamstrung by the traditional requirement for "cross ventilation," which is no longer necessary.

The possibility that some ventilation could be required to dilute odors was admitted by McGrath, but "even this justification could be an anachronism," he declared.

Objectives of Total Air Treatment

As for his "total air treatment" concept, McGrath cited these specific objectives:

"1. Heating when needed and to the degree needed.

"2. Cooling when needed and to the degree needed.

"3. Humidifying when needed and to the degree needed.

"4. Dehumidifying when needed and to the degree needed.

"5. Constant removal of dirt and dust (much less of a problem when we keep the dirty outside air out).

"6. Constant removal of pollen, spores, and other allergens.

"7. Constant removal of odors created within the space.

"8. Constant removal of airborne bacteria and virus organisms. (And here I might comment that in addition to the ever-present danger of radioactive contamination, we have added the disturbing possibility of our atmosphere being polluted with germ warfare.)

"9. Constant removal of air contamination due to leakage of outside air into the building. (Here I have in mind the irritating constituents of smog, or the atmosphere indigenous to crowded urban places.)"

The possibility that control of ion polarity could be another function of total air treatment was also mentioned by McGrath with the qualification that "better evidence" on the subject is needed.

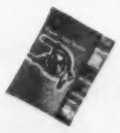
Most of the objectives of total air treatment can be met with present equipment, according to McGrath, who nevertheless pointed out that even better equipment can be developed.

Handy Tube Bender

Smoothly Bends any pipe or Tubing ⅜"-1⅛" O. D.

• Just a twist of the wrist assures perfect, even bends — right angle, any angle, U and offset. Save enough on ONE job to pay for your HANDY BENDER.

See your supply house—or write for free folder today.



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428 N. Willow Road • Evansville, Indiana

Are You Paying Premium Prices For Your Pipe Wrapping?

Now... cut costs, reduce inventories and *profit* more with the *one* standard insulation that fits every pipe and fitting, meets *every* service requirement!

THREE INSULATING BARRIERS *in* NO Drip® TAPE

1. OUTSIDE
Rough surface prevents free circulation of moisture-filled air—creates dead air barrier.

2. ¼-INCH THICKNESS
Built-in moisture barrier assures utmost insulating efficiency.

3. INSIDE
Dead air is trapped between "corrugated strands", forms added insulation barrier.

NoDrip Tape means more profit, less work on every job . . . saves you time, labor, material. NoDrip Tape eliminates most multiple wrappings needed with thinner wraps . . . inferior wraps.

Why pay more when you can buy the handy 16 foot roll of ¼" thick NoDrip Tape at less than half the cost of a roll of ordinary ⅛" wrapping . . . and *far* below the cost of pre-formed foam cellular insulations?

Next time an equipment cold line job calls for *permanent* protection against condensation drip, "sweating" or frost, insist on using NoDrip Tape. Stops rust and corrosion, too . . . holds temperatures more constant and increases the efficiency of the cooling equipment.

NoDrip Tape is pliable, cork-filled and completely self-adhering. Easy to work with . . . forms an air-tight, 100% vapor and moisture proof jacket. Needs no tools, vapor seals, fasteners, brads or adhesives.

NO DRIP PLASTIC COATING... PROTECTION FOR BIG AREAS

For large pipes, tanks, air ducts, we recommend NoDrip Plastic Coating for permanent protection from condensation, rust and corrosion. Another fine Mortell refrigeration product, NoDrip can easily be applied by brush or trowel to metal, concrete, brick, plaster, tile or composition surfaces.

Easier to Apply...

EVEN AROUND JOINTS, TEES, VALVES OR ANGLES

Mortell COMPANY

Makers of Mortite Caulking Cord and Mortite Caulking Gum

J. W. Mortell Company, Dept. 3
520 Burch St., Kankakee, Ill.

O.K.! Send me full information about the complete line of Mortell refrigeration products.

I'm a Jobber____ Dealer____ Serviceman____

Name____

Firm____

Address____

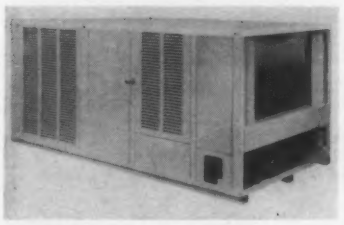
City____ State____

Weatherproof Cartons Protect Insulation

● The labor and expense necessary to store insulation materials for large jobs have been eliminated through the introduction of weatherproof cartons, according to Johns-Manville, Dept. AH&RN, 22 East 40th St., New York City 16.

The insulation cartons have been tested to withstand exposure to snow and rain for a period of three months without damage to contents, it was stated.

"Availability of these cartons," Johns-Manville said "can make it possible for users of J-M insulations to eliminate the cost of erecting or renting jobsite storage facilities, thus reducing costs on large or long-term jobs. Only runners or skids are recommended to keep cartons off the ground. Most of J-M's industrial and commercial insulations will be available in these cartons at a slight premium."



Wright-Temp Adds Heating-Cooling Units

● Two heating-cooling combination units are included in its 1960 line of refrigerated air conditioning equipment, it has been announced by Wright-Temp Mfg. Co., Dept. AH&RN, 2902 West Thomas Rd., Phoenix, Ariz.

Models are of 2-ton (single phase only) and 3-ton (single and three phase) capacities.

"Each unit is completely self-contained, consisting of an air-cooled package refrigeration system and AGA-approved natural gas fired furnace (LPG available)," the company said. "The 2-ton model is rated at 50,000 B.t.u., the 3 ton at 75,000 B.t.u. Both models feature an aluminized steel heat exchanger and 100% pilot shut-off.

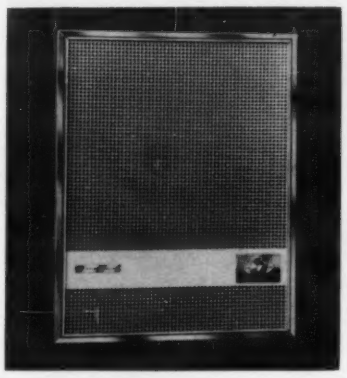
"Refrigeration system in the 2-ton model is capillary tube type; in the 3-ton model, expansion valve type. The 2-ton model carries rating of 24,000 B.t.u. @ 95° ambient temperature; 3 ton, 35,100 B.t.u. @ 95° ambient. There are no refrigeration lines to run, thereby cutting installation costs."

The entire heating-cooling operation is controlled by a single thermostat to provide three-way use: heating, cooling, and ventilating, it was pointed out. The compact, low-silhouette cabinets are designed for roof-top installation. They can also be installed on ground slab or in crawl way.

Pipe Thread Tape Forms Permanent Seal

● A thread seal tape which, when applied directly to pipe threads, reportedly forms a complete permanent seal, has been announced by Dodge Fibers Corp., Dept. AH&RN, Hoosick Falls, N. Y.

Made of "Teflon," the thread seal tape is not affected by acids, gases, steam, atmospheric conditions, high or low temperatures (600° F. to -400° F.), the company said. The tape also prevents threads from rusting or corroding together, it was stated.



Built-In Heaters For Add-on Rooms

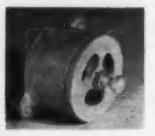
● A new line of built-in, fan forced heaters "designed for fast, easy installation in 'add-on rooms,' basement family rooms, shops, or any place in the home where extra heat is needed," has been announced by Emerson Electric Mfg. Co., Dept. AH&RN, 8100 Florissant Ave., St. Louis 36.

The heaters "automatically circulate warm air throughout a room, quietly and efficiently without the heater itself becoming hot to the touch," according to the company.

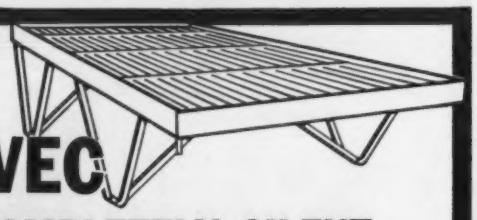
The four models in the line have ratings ranging from 1,500 to 4,000 watts and develop from 5,120 to 13,650 B.t.u., the company said. All are rated 240 volts, and are 20¾ in. high by 16 in. wide, 4¾ in. deep. List prices range from $59.90 to $83.

Alarm Whistles When Filter Gets Dirty

● "Whistling Lew," an air filter alarm which automatically whistles to tell the user when filters should be cleaned or replaced, is offered by Thos. F. McNally Associates, Dept. AHRN, 702 Academy St., Kalamazoo, Mich.



According to the company, the device is easily mounted on the outside of the blower housing of either a furnace or air conditioner. The self-contained unit is rust resistant, can be mounted in any position, and has no moving parts, the company indicated. Recommended retail price is $4.95.



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THE COMPLETELY SILENT AIR-COOLED CONDENSER...

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• No fans • No maintenance • Low silhouette • No wiring
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"One of the nation's largest manufacturers of Residential and Commercial Boilers, Baseboard and Steel Fin Radiation, Motorized Valves, Air and Water-Cooled Refrigerant Condensers."

All New

HI-LO VALVE

IT'S ECONOMICAL BECAUSE THERE'S ONLY ONE SIZE!

Saves time and effort while charging or purging systems, or taking guage readings. Available from your local wholesaler. Write us for details.

HI-LO VALVE MFG. CO., INC.
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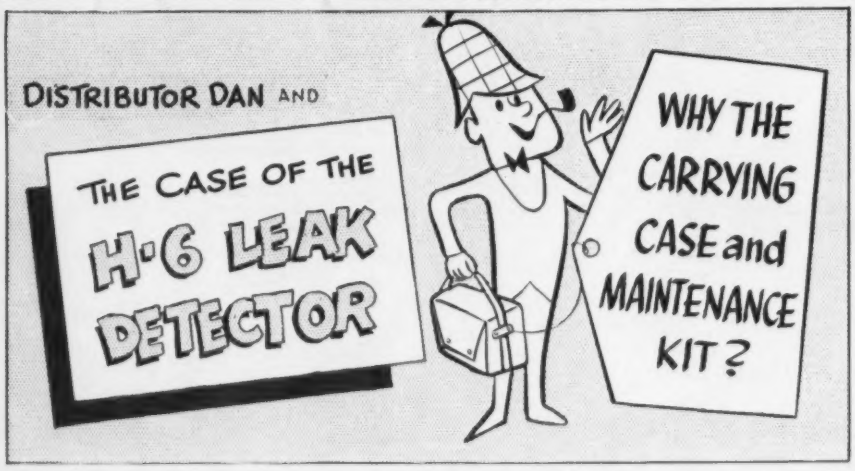
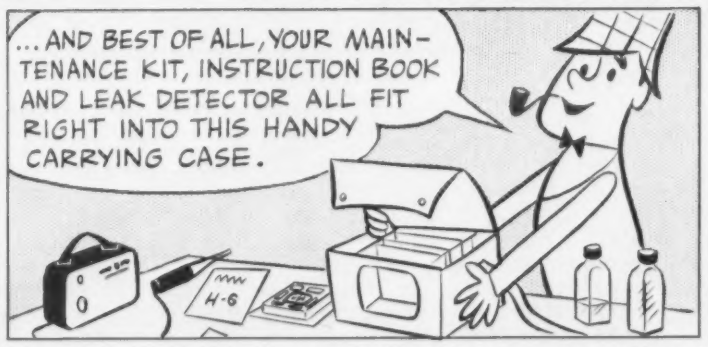
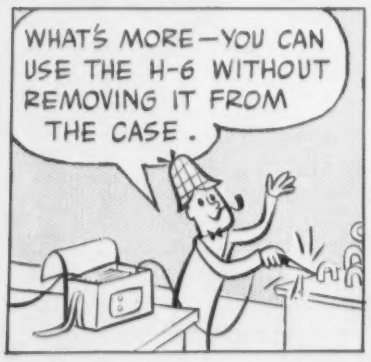


ARE THERE MANY PARTS TO REPLACE IN THE H-6 LEAK DETECTOR?
EVERY THING NEEDED FOR ABOUT ONE YEAR'S OPERATION IS IN THE H-6 MAINTENANCE KIT IT INCLUDES...
AIR CONDITIONING & REFRIGERATION SERVICE

EXTRA FILTERS, ION SOURCES AND COLLECTOR, LAMPS, FUSES AND TUBES WITH ALL THESE IN YOUR KIT, YOU CAN SERVICE THE H-6 RIGHT ON THE JOB...WITH NO LOSS OF TIME...





"FOR FAST SERVICING AND BEST RESULTS WITH YOUR H-6 LEAK DETECTOR, YOU SHOULD HAVE BOTH THE MAINTENANCE KIT AND CARRYING CASE."

Watch for more tips from Distributor Dan and...

FOR MORE COMPLETE INFORMATION ON THE TYPE H-6 LEAK DETECTOR, CONTACT YOUR NEAREST AIR CONDITIONING AND REFRIGERATION WHOLESALER: OR SEND THIS COUPON TODAY FOR BULLETIN GEA-6827, TO GENERAL ELECTRIC COMPANY SECTION 595-413 SCHENECTADY 5, N.Y.

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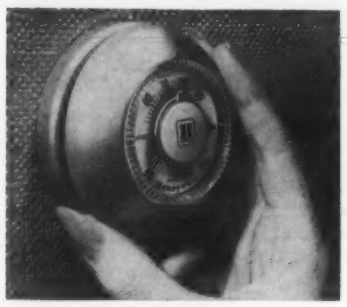


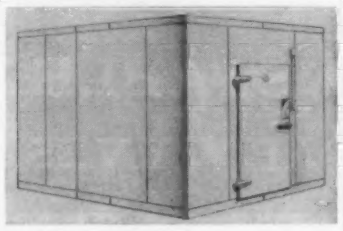
Round Thermostat Offers Design Changes

● Introduction of a new "Diamond Jubilee Round" thermostat has been announced by Minneapolis-Honeywell Regulator Co., Dept. AH&RN, 2753 Fourth Ave. S., Minneapolis 8.

The thermostat has the basic appearance and characteristics as the company's original round, first introduced in 1952, but incorporates a number of design changes aimed at making it easier to read and more attractive, it was pointed out.

The new "picture window" dial is 40% larger than the viewing dials on earlier models, while size of the indicating numerals has been increased by 20%. In addition, the set point scaleplate is located at the top of the thermostat, and the thermometer scale is at the bottom to facilitate dial reading.

A plainly-marked "comfort zone" allows the homeowner to check performance of his heating and air conditioning system "at a glance." The Diamond Jubilee Round has a new silver-gray finish. If desired, the decorator ring can be removed and painted to match or contrast with any color scheme.



C. V. Hill Redesigns 'Add-a-Unit' Coolers

● Complete redesigning of its "Add-A-Unit" metal cooler and storage freezer line has been announced by C. V. Hill & Co., Inc., Dept. AH&RN, 360 Pennington Ave., Trenton 1, N. J.

"Improvements of the steel clad storage unit include greater availability of sizes in both height and length," the company pointed out. "Other features include cam-acting door hinges, newer, more serviceable hardware, and greater flexibility of steel interior fittings. Fast acting rotary design lock fasteners insure positive joining of wall, ceiling, and floor sections.

"Three models range in height from 7 ft. 3 in. to 10 ft. 7 in., each available with or without 'floors.' All are designed for easy, add-a-unit construction. Lengths are now available in 1-ft. increments. Interior fittings employ new key slot assembly for quick adjustment of rails or shelves to meet individual storage needs."

Want More Details?

ADDITIONAL details on products that are described on these pages may be obtained by writing the manufacturer at the address given in each What's New story.

Hose Features Synthetic Construction

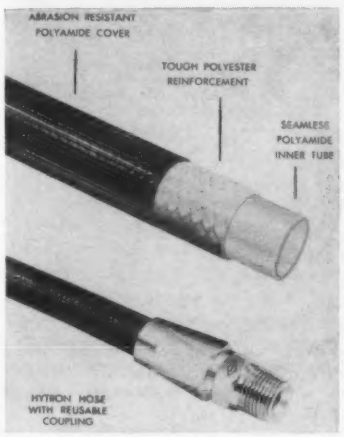
● "Hytron" pressure hose, of all synthetic construction for hydraulic and other high pressure applications, is being offered by The Imperial Brass Mfg. Co., Dept. AH&RN, 6300 W. Howard St., Chicago 48.

The hose consists of a seamless extruded inner tube of special virgin polyamide material, a high tensile strength polyester reinforcement and a cover of extruded polyamide formulation. Cover is fluted for torsional strength.

Minimum burst pressure is listed as 9,000 to 12,000 p.s.i., depending on size. Temperature range is from -40° F. to 225° F.

A complete line of Hytron reusable couplings is provided for assembly of hose, and hose assemblies can also be furnished with factory crimped-on couplings.

"The new Hytron hose represents the result of extensive research," it was stated, "and utilizes the latest advances in plastic engineering materials to provide performance which exceeds that of wire braid rubber hose in many areas."

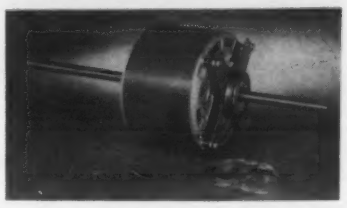

ABRASION RESISTANT POLYAMIDE COVER
TOUGH POLYESTER REINFORCEMENT
SEAMLESS POLYAMIDE INNER TUBE
HYTRON HOSE WITH REUSABLE COUPLING

Motor Has Adjustable Mounting Adapter

● A permanent-split capacitor motor for replacement of motors in room air conditioners and furnace blowers has been announced by the General Electric Co., Dept. AH&RN, Schenectady, N. Y., as a companion to the shaded-pole replacement motor announced last summer.

The new motor, with adjustable mounting adapter, permits substitution for almost any 5½-in. diameter permanent-split capacitor motor, according to G-E.

"The adjustable mounting adapter supplied with the motor can be installed by the repair or serviceman," it was stated. "The adapter is mounted on the motor's extended through bolts so that it can be adjusted axially along the motor shaft. Positioning of the adapter permits the mounting ring to be located from a minimum of 4⅝ in. motor length to a maximum of 5⅛ in.



"The adapter can also be omitted for band-mounting of the motor or for applications requiring mounting by the motor through bolts, thus permitting minimum motor length.

"Included with both the new permanent-split capacitor motor and the shaded-pole motor are 2¼-in. diameter mounting rings which are assembled on the motor and adapter. Cushion-ring diameter can be increased to 2½ in. for applications requiring this dimension through use of additional ring adapters supplied with the motor."

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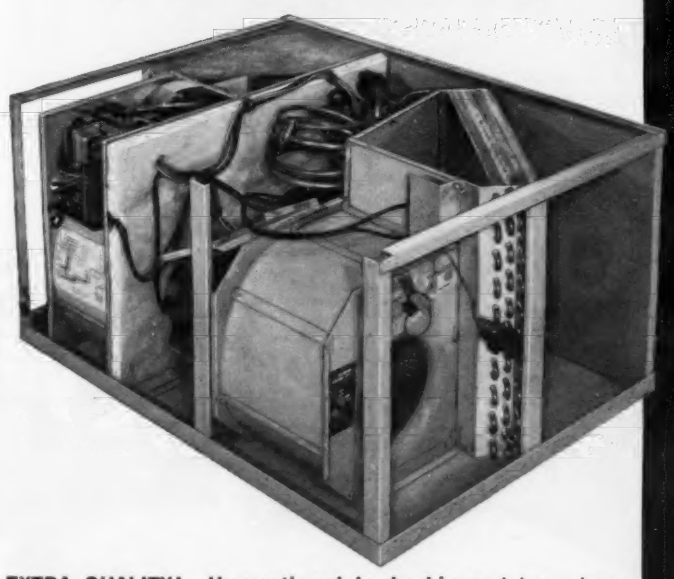

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From blueprint stage to installation, Amana Central System Air Conditioners and Heat Pumps are Amana designed and manufactured to give you extra quality at no extra cost. Your assurance of extra profits through easier sales, less installation time, fewer maintenance call backs.

The complete Amana Central System Line offers models for every installation, every climate. There's a range of 2, 3, 4 and 5 H.P. Heat Pumps and Cooling Units in both package and remote models to satisfy all your customers with year 'round living comfort.

EXTRA QUALITY!—Unquestioned leadership and know-how backed by years of experience and superior craftsmanship in the commercial and home refrigeration products field!

EXTRA QUALITY!—Amana-built coils, designed and manufactured in Amana's own coil plant to the most rigid specifications, provide up to 10% increased BTU capacity. Strict quality engineering controls assure clean, dry coils that are virtually service-free!

EXTRA QUALITY!—Four-way anti-rust protection for longer life, better performance—at no extra cost to you! All steel parts in Amana central system units are zinc coated, then bonderized and finished with two coats of special formula Epoxy resin enamel baked on!

EXTRA QUALITY!—Amana-built blower housings! Blueprinted and engineered by Amana to the highest quality standards. This means finest performance, quietest cooling possible!

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TECH CENTER

by Frank J. Versagi, Technical Editor

Applied Electrical Theory (19)

Silent Circuit

What is the 3-phase, 220-volt system which has one circuit they call a silent circuit and you are unable to get a ground off either circuit that is 110-volt. This is on a bulk gas station and several people have been called out who don't know anything about it.

This unanswered question was published in a recent Techcenter. Several replies have been received, and NEWS editors have since encountered contractors who have been embarrassed after diagnosing "a blown fuse" because they could measure no voltage-to-ground from one leg of a three-wire service, only to find that they had been misled by this "silent circuit." One of the first leads came from Detroiter Andrew Sirotti of Johnson Service.

Walter E. Patten, zone engineer for American Stores Co., Baltimore, wrote, "We suspect that your correspondent has encountered a three-phase delta secondary system with one phase grounded intentionally at pole. It is presumed that he means he gets no voltage to ground from the 'silent' phase and gets 220 to ground from the other two phases by saying 'you are unable to get a ground off either circuit, that is 110 volt.'" (See Fig. 1.)

"Normally such service is for 3-phase power only, with no lighting involved. Where lighting is needed, it is supplied by one of the following means, No. 1 being the most common.

"1. By separate 115-volt or 115/230-volt single-phase service and separate meter.

"2. By customer's own transformers inside property, 220 to 110 volts or 220 to 110/220 center tapped secondary.

"3. By using 220-volt lamps on power service.

"We doubt if he has the system shown in Fig. 2, which is 4-wire, 3-phase used in rural areas with long distances between pole transformer and farms where power and light are involved, and common 4-wire Y systems yielding 208 volts at the pole drop too low to use on the farm. The sketch shows 3-phase delta system with one secondary center tapped for neutral. Result is 220 3-phase power and two 110-volt lighting circuits. Third possible circuit to neutral is a joker with 190.5 volts.

Fig. 3 shows common Y secondary, 4-wire, 3-phase system yielding 208, 3-phase power and three 120-volt lighting circuits, and is included to complete the possibilities. It is unlikely that this system is involved in your reader's problem."

* * *

J. Bakker of the E. Van Staveren Co., New York City, suggests that the transformer setup in Fig. 4 could give the silent circuit.

* * *

This article ends the series on APPLIED ELECTRICAL THEORY. Briefly, the series has introduced the theoretical principles behind practical applica-

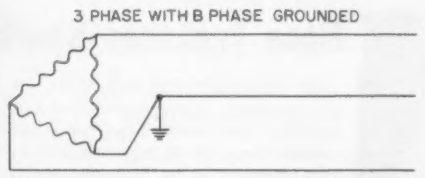

FIGURE 1

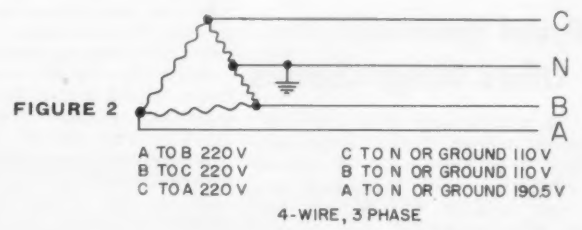

FIGURE 2

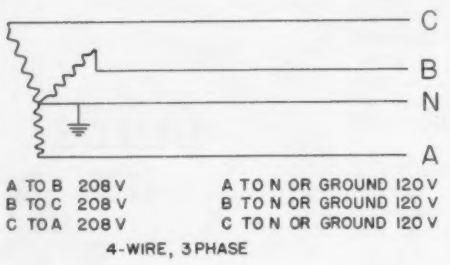

FIGURE 3

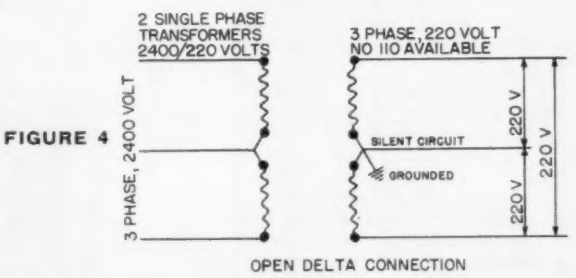

FIGURE 4

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TROUBLE-FREE
OPERATION

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Air Conditioning and Heating Industries

Choose from this Furnas Electric complete line of magnetic starters. Now, compact controls with pressure connectors, dual voltage encapsulated coils and front accessible terminals simplify installation.

Years of design and field experience have resulted in controls which far exceed the rigorous requirements of the industry.

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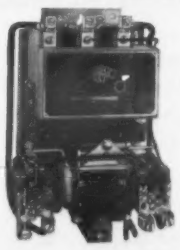
SPECIFIC PURPOSE CONTACTORS

20, 30, 40 Amp. 2, 3 and 4 pole devices, all with interchangeable mounting dimensions. These compact contactors are designed for heavy-duty service in Open and Type 1 enclosures. Magnet design has "No-Kiss Potential" feature—positive pull in and drop out.



GENERAL PURPOSE CONTROLS

Furnas Magnetic Starters, ruggedly designed to provide complete satisfaction, are available through size 6. Dual voltage coils, "Trip-Free" thermal overload relays and Furnas in-between sizes 1¾ and 2½, plus features such as moisture proof coils and silver-cadmium oxide contacts assure long trouble-free operation.

Write for Bulletin 36-B1 to see how you can profit by using Furnas Electric controls, 1111 McKee Street, Batavia, Illinois.

A80

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LINE TAP VALVES

For charging, discharging, purging and testing refrigeration and air conditioning systems. Just 2 valves cover 6 sizes of tubes ranging from 3/16" O. D. to 5/8" O. D.

PART NO. AP-1

For 3/16", 1/4", 5/16", 3/8" O. D. tube. The AP-1 adjusts to fit any of the above size tubes.

PART NO. AP-2

For 1/2" and 5/8" O. D. tube. The AP-2 conforms to the tube. An insert which, when used, adapts the valve to 1/2" O. D. tube. The insert is removed when used on 5/8" O. D. tube.

THE ADJUSTABLE LINE TAP VALVES may be installed under pressure and in any position, and incorporates the following features:

- **QUICKLY INSTALLED FROM THE TOP WITH THREE PHILLIPS HEAD SCREWS**
- **ONE PIECE NEEDLE AND SHAFT MAKES IT IMPOSSIBLE FOR NEEDLE TO LOOSEN AND FALL OUT**
- **EASY-TO-GRIP *DELRIN "T" HANDLE CANNOT BREAK OR LOOSEN**
- **ADDITIONAL SEALING CAP FOR MAXIMUM PROTECTION**
- **STREAMLINE FINISH— NO ROUGH EDGES ON WHICH TO SCRAPE YOUR HANDS**
- **CONTOUR MILLED**
- **PACKAGED IN RE-USABLE, HINGED PLASTIC BOX**

*New DuPont wonder plastic

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tions of electricity. Thus, a discussion of the properties of series and parallel circuits could be associated with the wiring involved with a fuse, an overload protector, start and run capacitors, or fans, lights, and compressors in a commercial fixture. And such things as inductance and capacitance were related to starting and running a motor, operating a solenoid coil, improving power factor.

From time to time, future Techcenters will discuss such practical electrical details as checking motors for shorts, grounds, and opens; the design and use and testing of capacitors; the use of instruments for specific problems. Those articles will most logically be filed with this just completed series on theory.

While there are many texts dealing with electricity, there is one adapted from U.S. Navy specialty schools which very adequately goes from basics to more complex theory. Those with a knowledge of algebra and trigonometry will find the mathematical explanations clear and enlightening; those without this math background can still obtain a general, rather than a specific understanding of the more complex electrical phenomena. The book: BASIC ELECTRICITY by Van Valkenburgh, Nooger, and Neville, Inc. Publisher: John F. Rider Publisher, Inc., 116 West 14th St., New York City 11.

Davidson Supply Opens In San Francisco

SAN FRANCISCO — William F. "Bill" Davidson has opened a new wholesale house, Davidson Supply Co., for refrigeration and air conditioning supplies at 1339 Fairfax Ave. near S. Third St., San Francisco 24, MIssion 8-7676.

For many years Davidson was general manager of Hinshaw Supply Co. with headquarters in San Francisco. His partnership wil R. L. Hinshaw was dissolved in January.

Wholesaler's Customers Visit Compressor Plant

SIDNEY, Ohio — Customers of a parts and supplies wholesaler recently had the opportunity to inspect the manufacturing facilities of Copeland Refrigeration Corp. here and to take part in a panel discussion of field service problems with Copeland personnel.

Forty-six air conditioning and refrigeration dealers, contractors, and servicemen from northeastern Indiana and southwestern Michigan made the trip to Sidney, which was arranged jointly by the wholesaler, F. H. Langsenkamp Co. at South Bend, Ind., and Copeland.

Arriving by chartered bus from South Bend at noon, Copeland hosts met the group for luncheon, followed by a two-hour inspection tour through the Campbell Road plant.

CUSTOMERS of F. H. Langsenkamp who visited the Copeland Refrigeration Corp. plant in Sidney, Ohio.

Meeting later at the Hotel Wagner, Ben Moreland, vice president of manufacturing, briefly outlined the Copeland program aimed to better the delivery, performance, and quality of Copeland products from engineering concept to the final, volume-produced item.

Glenn Detrick, service manager, then briefly reviewed Copeland findings and recommendations connected with installation and service procedures at the dealer level.

Participating in a panel discussion of system installation and service procedures were Dale Bodine, Copeland regional manager; Ray Mozley, vice president and chief application engineer; Rudy Berg, vice president, sales; E. T. Kroder and Don Fry, engineering department; Detrick; and Paul Lawrence, F. H. Langsenkamp Co.

Frank J. Gleason, president, pointed out the importance of the wholesaler-dealer relationship to Copeland.

"While our direct sales contacts are made at the wholesaler level, it is extremely valuable to dealers and Copeland to maintain close contact through the wholesaler," he stated.

"We have found that this contact can lead us to the development of procedures that improve the performance of Copeland equipment in the field."

KEEP IT CLEAN!

VAPCO-PHOS NUGGETS

For complete protection against recurrence of scale, rust, corrosion, algae and slime. Nuggets dissolve uniformly and slowly for long-term protection. Apply by hanging in spray, submerging in sump, or through a feeder. Plastic feeder bags supplied with 3 and 10 lb. cans. 50 and 100 lb. drums also available.

VAPCO-SLIME-X

For positive control of algae and slime. Harmless to wood or other parts of system. 10 ounce cans and 25 pound drums.

Vapco QUALITY PRODUCTS

Complete literature on request or see your dealer TODAY!

GARMAN COMPANY ST. LOUIS 25, MO.

Puts the Double Crimp on Dirt and Moisture

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Not one but two crimps are made in each end of DRYSEAL. This is the final step in manufacturing, that immediately follows a special cleaning and dehydrating operation, which keeps dirt and moisture from entering the tube.

The seal is made in such a way that the diameter of the tube does not change, which permits DRYSEAL to be passed through any opening large enough for the tube itself.

As for bendability—the soft temper of the copper used in DRYSEAL allows you to make the most intricate bends by hand. And its ductility and soft temper make it extremely easy to flare for compression fittings without danger of splitting. Economical tube sizes range from ⅛" to ¾" O.D.

Also you'll find the job-size, 50-foot one-coil pack easy to handle, light weight, economical.

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1959 Welbilt Sales Hit Highest Point In Firm's History; Profits Double '58

MASPETH, L. I., N. Y.—In the annual report to stockholders, Alexander P. Hirsch, chairman of the board of The Welbilt Corp., stated that 1959 was a record-breaking year for the company.

Sales reached the highest point in history and net profits doubled those of 1958, he said.

During the year, Welbilt acquired a major subsidiary in the range business, the Wedgewood Holly Corp. of Culver City, Calif. In January, 1960, it acquired in the air conditioning industry, the American Coils Co. of Farmingdale, N. J., which was renamed the Welbilt Air Conditioning & Heating Corp.

Total sales volume of the parent corporation and its subsidiaries for 1959 reached a new high of $27,933,246 compared with 1958 sales of $19,306,082. Net earnings for 1959, after taxes and certain non-recurring special items, were $806,132, against $406,762 in 1958 after Federal income taxes.

Hirsch stated that 1959 witnessed a wide expansion of manufacturing and sales activities by the company's subsidiaries and divisions. The company will continue this program and will acquire new companies to diversify product lines.

NEWS readers are invited to write to the editor giving their opinions on any subject of interest to the industry.

Sales Subsidiary Formed by Admiral

CHICAGO — Formation of a separate subsidiary, Admiral Sales Corp., for conducting the sales, service, advertising, and promotional activities for all Admiral consumer products was announced by Ross D. Siragusa, president of Admiral Corp.

"The new sales organization marks the culmination of years of planning," Siragusa said, "to further strengthen the company's marketing operations. This move, we believe, will help us attain our projected goal of a 50% sales increase over the next two years."

Carl E. Lantz is president of the new corporation.

Salesmen, Consumers Share In Kelvinator Television Quiz

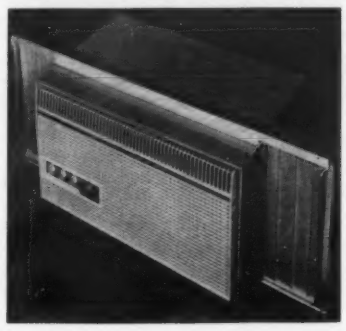
DETROIT — Dealer salesmen and consumers will be able to share in the "Big Plus Telephone Quiz" which is a part of Kelvinator's spring promotion presented to the firm's field organization in a series of meetings.

Prizes for consumers consist of 120 appliances worth $50,000 at retail plus a jackpot prize of four appliances or $1,000 in cash and four grand prizes of 1960 Foodaramas, according to E. B. Barnes, general sales manager for Kelvinator.

Dealer salesmen, whose names appear on winning consumer entries, will win $50 U. S. Savings Bonds during the regular quiz period and two $100 bonds for the jackpot winner, plus one $100 bond each for the grand prize winners, Barnes said.

The telephone quiz will be conducted by long distance from Kelvinator's Detroit headquarters. Calls will be made every other week beginning May 2 and ending June 27, and 24 appliances will be awarded each of the five weeks.

G-E Kit Permits One Man To Install Room Unit with Screwdriver, Scissors



NEW GENERAL ELECTRIC "Easy Mount" room air conditioner installation kit features aluminum side panels which slide out to fit in sash track. Four screws complete installation, and the only tools needed are a screwdriver and a pair of scissors. The new all-aluminum Easy Mount installation kit (RAK-15) is designed for use on any of the company's large selection of "low" Thinline models and will be completely assembled and attached to the cabinets of two newly-announced models, RE140 and RE151.

* * *

LOUISVILLE, Ky. — A new "Easy Mount" kit with which, the company says, one man can install a room air conditioner using only a screwdriver and a pair of scissors has been announced by General Electric's Room Air Conditioner Dept.

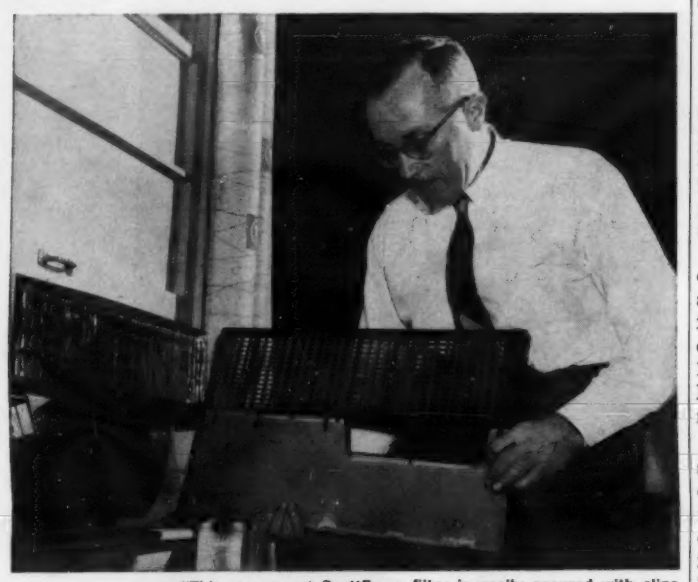
The all-aluminum Easy Mount kit (RAK-15) can be used on any of the company's large selection of "low" Thinline models, it was stated. In addition, two new window units, models RE140 and RE151, will have the Easy Mount kit completely assembled and attached to the air conditioner cabinet.

"In making the installation, the air conditioner chassis is removed from the case, to which the Easy Mount assembly is attached," it was explained. "Two sturdy sill brackets are then screwed to the window sill.

"With chassis removed, the cabinet can be easily lifted and placed in the window, where rust-free aluminum side panels pull out and fit firmly in the sash track to ensure a weather-tight installation.

"Two screws secure the top of the sliding panels to lower sash, after which the chassis is re-positioned in the case and the front grille replaced.

"As an added convenience to the customer, the Easy Mount assembly is designed to position the air conditioner front in the center of the window, so that draperies fall naturally at either side of the unit and can be completely closed if desired. If the customer chooses to move the air conditioner to another window, the sill brackets can remain and the window may still be closed."



"This permanent ScottFoam filter is easily secured with clips against the front panel grill," reports Mr. Moffitt. "And it can be just as easily removed, washed and replaced by the housewife."

SCOTTFOAM* FILTERS SPELL CONVENIENCE TO OUR CUSTOMERS *says J. P. Moffitt, Department Manager—Room Air Conditioners, Westinghouse Electric Corporation*

"We try to build permanence into our products," states Mr. Moffitt. "That's why we use ScottFoam filters for all 37 models of our Mobilaire® Conditioners.

"These filters really take rough handling. We make our units so the filters can be easily removed, washed, rung out like a towel and replaced. And there's never any shrinkage. Another advantage is ScottFoam's germicidal action, which stops growth of bacteria trapped in the filter."

"From a manufacturer's standpoint, we like ScottFoam filters because they're indestructible in our assembly operations. And ScottFoam is completely safe to handle. No fears of workers getting skin irritations or slivers in their eyes or hands from ScottFoam."

Write for your free booklet, SCOTTFOAM FILTER MEDIA

See how permanent ScottFoam filters can be adapted to your products — and give you added sales features.

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Scott Paper Company, Chester, Pennsylvania

Yes, I'm interested in receiving your technical booklet on sales-building ScottFoam filters.

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I'm presently using the following types of filters:_____

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another product of research by
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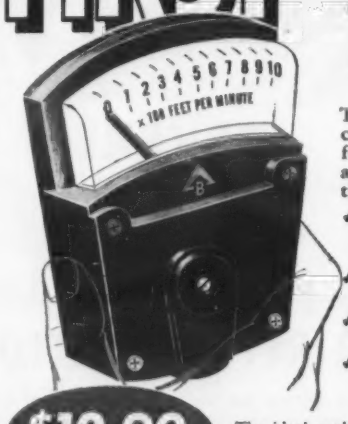

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- Spot objectionable air movements in rooms.
- Detect leaks around doors and windows.
- Check air flow in display cases, reach-in refrigerators, walk-in coolers, etc.

$12.90 FACTORY NET

The ideal pocket-size air velocity indicator; direct-reading; can be used for checking air flow through openings as small as ¼" in diameter. Range 0-1000 ft./min. Supplied with pocket case.

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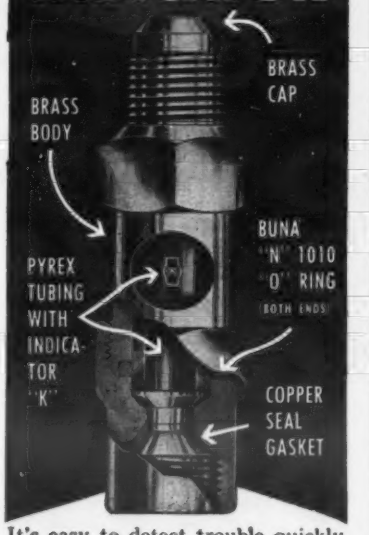
KEROTEST MODEL R81C
IN-LINE Liquid INDICATOR



It's easy to detect trouble quickly in refrigeration lines with this indicator. Letter "K" is etched on pyrex heat-resisting tube which shows through sturdy brass body at sight port. When "K" is not magnified, it indicates a shortage of refrigerant or a clogged line. Available in male and female flare sizes. Maximum operating pressure —500 p.s.i. and maximum temperature 200° F. Easy to install.

See your Kerotest wholesaler!
Ask for Model No. R81C.

KEROTEST

KEROTEST MANUFACTURING CO.
2502 Liberty Avenue
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23% Fuel Savings Result from Modifying Oil Burners In the Home, OHI Told

NEW YORK CITY — Field tests have confirmed laboratory findings that many oil-burning furnaces can be modified in the home to improve efficiency and reduce operating costs, an Esso Standard representative told the Oil-Heat Institute at its 38th annual convention here.

The need for some such program was emphasized by H. L. Baker at a symposium staged by the OHI Technical Div.

"If we are going to effectively compete with gas and electricity and continue to grow with this expanding market, the heating oil industry must give the homeowner equally good performance and service," Baker declared. "We can do this by improving the efficiency of existing oil heating systems. We can and must improve our maintenance and give better customer service."

Field tests described by Baker involved 128 homes in New Jersey where the cost of modification ranged from $35 to $116 and predicted savings per season ranged between $21 and $224, or an average of 23%.

What was done to modify the systems was indicated in the earlier laboratory tests, Baker implied.

"Reducing the firing rates of most homes through the use of smaller nozzles and increasing turbulence by the use of smaller end cones was shown to be an effective way to improve the efficiency of oil-fired systems," he explained.

"Matching the air and fuel-spray patterns plus the use of smaller combustion chambers combined to improve combustion and, therefore, the efficiency. The installation of baffles in some instances helped to improve the heat transfer and, thereby, improve the over-all efficiency," Baker added.

Average efficiency of the test homes prior to modification was found to be 64.4%, and this was increased to 79.7% immediately after modification ("in the same league with gas efficiencies") while the efficiency remained at 77% for the season, Baker explained.

"It is felt that cleaning and minor adjustments at the time of the annual service checkup would bring the system efficiency back to the original level," he declared.

"It should be pointed out that furnace efficiency as discussed up to this point . . . is a figure obtained by measuring the CO_2 in the combustion gases and the temperature of the exhaust or stack gases. The higher the CO_2 and the lower the stack temperature, the more efficiently the system is operating," Baker said.

While much of Baker's presentation was in the nature of a statistical analysis where percentages of percentages resulted in losing members of the audience at every turn, he also brought out such pertinent points as "sales of replacement burners and boilers have been a significant and profitable development resulting from this program . . . sales of new burners and/or boilers are averaging almost one out of every three modifications.

"There are other benefits associated with the replacement burner sales," Baker declared. "A homeowner who invests $100 to $150 or more in a new replacement burner will likely be a fuel oil customer for some time. Since a new burner will require less maintenance, the servicing cost on contract customers will be reduced. This reduces the service department's expense and gives more time to devote to an aggressive efficiency program."

Knudson Named Chief Engineer of Heating Products at Coolerator

ALBION, Mich. — Robert F. Knudson has been appointed chief engineer of heating products for Coolerator Div. of McGraw-Edison Co., it was announced by M. F. Beisber, Coolerator president.

Knudson comes to Coolerator with over 15 years' experience in the heating and appliance field. During that time he has served with various companies as chief engineer in the development of various heating appliances.

Knudson will be in charge of the gas and oil home heater development program, the electric heating program, the humidifier program, and other electric heating devices being developed for the consumer durables field.

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"SERVICE MAINTENANCE CONTRACTS AND AVERAGE CHARGES FOR SERVICE PARTS AND OPERATIONS."

Only 50¢ each.

For your copy, clip this ad and mail with name and address to: Air Conditioning, Heating & Refrigeration News, 450 W. Fort, Detroit 26, Mich.

NEW

TAMPER PROOF TUBE PIERCING VALVE

MADDEN HP-41A

No handle discourages tampering. Operated by Allen wrench.

- Easiest to use, all in one piece
- V-block and lock nut combined in one unit
- Mounts in any position
- Cuts installation time

***General Purpose* VALVES**

New Madden Forged Brass Body valves for testing, charging, purging and other uses. Also available for panel mounting. Feature easy-grip handles and Teflon seats for positive shut-off.

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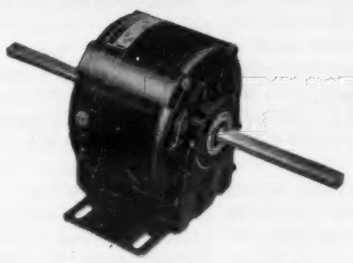
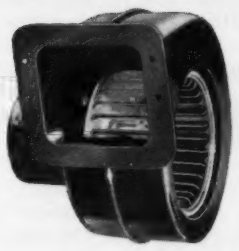
Authorized *Redmond* Distributorships Available in Selected Markets!



air conditioning replacement motor



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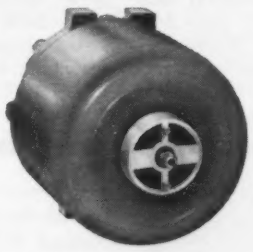


condenser fan motor

"all in one" replacement kit

Redmond offers you both a complete line of fhp electric motors, blowers, kits, and accessories, and the name that is known nationally as "The BIG Name in Small Motors."

As a Redmond Distributor you profit because of the products available to you, and you increase your sales because Redmond gives you without charge the most complete line of sales and merchandising aids available, backed up with a complete advertising program. It will pay you to take a minute to find out if the Redmond Distributorship in your area is still available. Just fill in the coupon below.

FREE SALESMAKERS

Wall Charts

Catalog Pages with imprint space

Catalogs

Counter cards

Motor Handbook

Postcards with imprint space

Stuffers with imprint space

Franchise circulation ads

National trade, technical, and consumer advertising

Redmond DISTRIBUTORS DIVISION
Redmond Company, Inc., Owosso, Michigan

I'm interested in obtaining a Redmond Distributorship.

Is one in my area still available?

NAME_____

FIRM_____

ADDRESS_____

CITY_____ ZONE_____ STATE_____

More Than 75 Refrigeration, Cooling Firms To Exhibit At National Restaurant Convention May 9 to 12 In Chicago

CHICAGO — More than 75 manufacturers of refrigeration and air conditioning equipment will display their newest products for the food service industry during the 41st National Restaurant Convention and Educational Exhibition at the Navy Pier here May 9-12.

The convention will get under way at 9 a.m. on Tuesday, May 10, with NRA President Raymond C. Matson giving the keynote address on "Food for Thought — Food for Profit." Shop talks sessions for the various types of food service operators are scheduled for Tuesday afternoon and Wednesday morning.

One of the features of the convention will be a special meeting for school lunch program directors on Wednesday afternoon and Thursday morning. This will include a presentation on latest developments in school food service design and equipment.

Another feature, set for Wednesday afternoon, is a "restaurant spectacular" called "A 1001 Miracles" which will "dramatically present the story of progress in the restaurant industry."

List of Industry Firms Exhibiting

Among the more than 625 exhibitors at the exhibition will be the following:

Allmetal Food Equipment Corp.; American Automatic Ice Machine Co.; Arkla Air Conditioning Corp.; Bally Case & Cooler Co.; Bastian-Blessing Co.; Beverage-Air Sales Co.; Bridgeport Brass Co.; Calgon Co.; Carbonic Dispenser, Inc.; Carrier Corp.; Coldin Cabinet Co., Inc.; The Cornelius Co.; Council Mfg. Corp.; A. Dalkin Co., Div. of American Machine & Foundry Co.; Jack Dubov Associates, Inc.; Dunhill Food Equipment Corp.

Elliott-Williams, Inc.; Erickson Industries, Inc.; Evans Mfg. Corp.; Fogel Refrigerator Co.; Foster Refrigerator Corp.; Freez King Corp.; Frigid Igloo Mfg. Corp.; Frosty-Glass Co.; General Equipment Sales, Inc.; Glasco Corp.; Glenco Refrigeration Corp.; Heat Exchangers, Inc.; Herrick Refrigerator Co.; Howard Refrigerator Co., Inc.; Ideal Cooler Corp.; Jet Spray Corp.; Jordon Commercial Refrigerator Co.

Stanley Knight Corp.; Koch Refrigerators, Inc.; La Crosse Cooler Co.; Leitner Equipment Co.; Lern, Inc.; Mallow Products, Inc.; McCall Refrigerator Corp.; McCray Refrigerator Co., Inc.; McGraw-Edison Co.; Monitor Dispenser Co., Inc.; Morrison Products, Inc.; Multiplex Faucet Co.; National Vendors, Inc.; Norris Dispensers, Inc.

The Perlick Co.; Phoenix Soda Fountains; Polar Chips Mfg. Co.; Port Morris Machine & Tool Works, Inc.; Progressive Metal Equipment, Inc.; Puffer-Hubbard Refrigerator Co.; Raetone Commercial Refrigerator Corp.; Ross-Temp, Inc.; S. & R. Soda Fountain Mfg. Co.; The C. Schmidt Co.; Scotsman, Queen Products Div., King-Seeley Corp.; Scovill Mfg. Co.; Selmix Dispensers, Inc.; Shelley Mfg. Co.

Silver Refrigeration Mfg. Corp.; Specialty Engineering Corp.; Stainless Food Equipment Co.; Stanley Equipment Corp.; Star Metal Mfg. Co.; Stiles Karlsonite Corp.; Sweden Freezer Mfg. Co.; Tekni-Craft; Temprite Products Corp.; Emery Thompson Machine & Supply Co.; Traulsen & Co., Inc.; Tyler Refrigeration Corp.; Uniflow Mfg. Co.; Victory Metal Mfg. Corp.; Henry Vogt Machine Co.; Welbilt Corp.; Wyott Mfg. Co.

SALESMEN OF PACKAGED EQUIPMENT LINES

The Trane Company has immediate openings for salesmen of residential and small commercial air conditioning lines. 3-5 years experience selling to dealers, contractors and jobbers required. Must be able to establish sound dealer organization, assist in dealer training programs. Fine earning potential with commission arrangement. Contact G. R. Hassell, Manager, Staff Employment, The Trane Company, La Crosse, Wisconsin.

MORT CLARK'S **GALV-WELD** ALLOY ORIGINAL & GENUINE

Solves corrosion problems in outdoor cooling towers, ductwork, etc. Dominate your market by selling trouble-free, all-galvanized structures with Galv-Welded joints. Write for details. Free sample.

GALV-WELD PRODUCTS
Dept. ACHRN
P.O. Box 1303
Bradenton, Florida

N. Y. Research Facility Will Study Use of Irradiation In Food Preservation

GENEVA, N. Y.—Study of the use of irradiation in food preservation by means of a radioactive cobalt source will be among projects undertaken at one of the country's outstanding agricultural research facilities opening here in May.

The New York State Agricultural Experiment Station, operated under the administration of Cornell university as a division of the New York State College of Agriculture, a unit of the State University of New York, will dedicate its $4,000,000 Food Science building May 5 and 6.

Other features of the 60,000-sq. ft. building include modern chemical and bacteriological laboratories and controlled air storage rooms and freezing chambers, with temperatures ranging to -120° F.

Constant temperature rooms will house especially sensitive and complicated scientific instruments.

The station's primary aims in food research are to increase the efficiency of raw material production and processing, particularly of fruits and vegetables, according to the station's announcement.

HUSSMANN model 2J refrigerated shelving for frozen foods.

Hussmann Introduces Refrigerated Shelving for Frozen Food Display

ST. LOUIS — Hussmann Refrigeration, Inc. has just announced the introduction of its new model 2J refrigerated shelving for frozen foods.

The company said this new type of frozen food display equipment provides two refrigerated decks instead of one.

"It places double emphasis on the displayed product, particularly on the higher-profit impulse frozen food items," the announcement stated.

"These two display decks also provide for twice the number of front shelf facings—to double the variety of frozen foods that can be effectively exposed at front shelf edge for easier selection of a wider variety of items without increased floor space.

"Other features include vertical display visibility, improved lighting of both refrigerated display decks, easier access to all products, Hussmann's 'Air-Cascade' type refrigeration system, and automatic defrost."

An adjustable lighted shelving superstructure, for related item merchandising, for use above the case is also available.

The new shelving can be joined by means of a single insulated partition to Hussmann wall type single-deck frozen food cases—both the glass-front and no-glass front models.

"This makes an ideal combination frozen food department, using refrigerated shelving for the display of higher-profit, impulse frozen foods,—and the single deck cases for regular frozen food items," the company said.

These 2 Krack 15-ton Remote Type Air Cooled Condensers at the Safeway Supermarket in Oklahoma City, condense Freon-12 refrigerant for 15 compressors serving food sales cases, display cases, and walk-in service rooms.
SAFEWAY
KRACK

"We chose Krack Air Cooled Condensers for Safeway because of full rated-capacity performance, low cost, and better delivery."

—L. C. Nettleship, Jones-Newby Supply Co., Oklahoma City

Count on KRACK to Deliver RATED CAPACITIES

YOU ENJOY THESE ADVANTAGES:

Equipment matches the job . . . You can be *sure* about actual performance. You don't have to "play it safe" by specifying more costly, "oversize" equipment for a job when it is not needed.

Gain advantages of lower bidding . . . By saving cost of specifying "oversize" equipment to compensate for uncertain performance, you can bid lower and win more jobs.

Save installation and maintenance headaches . . . With Krack job-rated equipment, installations go more smoothly. Costly service calls for repairs and adjustments are rare. A good way to retain priceless customer good will.

No service calls with Krack Air Cooled Condensers—Eliminate maintenance problems . . . forget about down time for draining, scale removal and periodic overhauls. No water is required. Destructive corrosive action from water is gone and so are costly callbacks.

KRACK REFRIGERATION APPLIANCES, INC.

Manufacturers of Freon or Ammonia, Recirculated, Flooded or Direct Expansion Heat Transfer Equipment

MAIL COUPON FOR FREE BULLETIN AC-457

REFRIGERATION APPLIANCES, Inc., 901 W. Lake St., Chicago 7, Ill.

Name_____

Firm_____

Street_____ City_____ Zone____ State_____

0230

DON'T BE SHY...

If you're not sure what valve to use, ask us—

Primore manufactures the largest selection of Air Conditioning and Refrigeration Valves in the industry. Yet, should you have a special problem where none will meet your needs, we invite you to discuss your problem with us. We will design, or alter, any valve to meet your requirements.

So, don't be shy. . . just call COlfax 5-6168, Adrian, Mich.

Remember . . . we make all types of Valves for Compressors, Condensers, Receivers and Evaporators for Home, Business and Automotive Air Conditioning and Refrigeration.

PRIMORE VALVES

. . . Tops in their field

Write for FREE illustrated catalog.

Primore Sales, Inc.
2460 South Main Street
Adrian, Michigan

Ice Cream Case Appeal--

(Continued from Page 1)

turers were charged by FTC with unfair trade practices in 1955. They are the Carnation Co., The Borden Co., Beatrice Foods Co., National Dairy Products Corp., Pet Milk Co., Fairmont Foods Co., Arden Farms Co., Foremost Dairies, Inc., and H. P. Hood & Sons, Inc.

After nearly four years of hearings, the hearing examiner issued his initial decision last July (see July 27, 1959 issue of the NEWS).

He brushed aside the arguments of refrigeration contractors and equipment distributors concerning equipment giveaways as mere "gripes about market practices."

He said the evidence did not show that the ice cream manufacturers used unfair competitive methods to sell their products or have illegally lessened competition.

In his appeal brief, Paulson declared that "we believe the evidence shows that the competitive behaviour of respondents tends toward monopoly; that the public is being deprived of the benefits of healthy competition in the relevant line of commerce; that unless the hearing examiner's initial decision is rejected the public interest will be seriously damaged."

He charged that the hearing examiner's decision stems directly from his finding of "no trend toward concentration" which in turn stems from his misunderstanding of U. S. Department of Agriculture estimates of frozen product plants and production for the years 1947-55.

Paulson contends that the USDA estimates were "clearly unsworn hearsay, and being estimates, not records, did not come within any of the exceptions to the hearsay rule."

He further contended that testing of the estimates proved them to be highly inaccurate—with error as high as 40%.

Paulson asserted that by quashing subpoenas of ice cream manufacturer records, the hearing examiner prevented him from getting production of the very proof that the hearing examiner stated must be presented to render witnesses testimony reliable.

"We submit that this is conduct antagonistic to a fair hearing and compels the commission to place no reliance upon the initial decision," he declared.

Referring to the supplying of ice cream cabinets by manufacturers to their accounts, Paulson contended that the hearing examiner missed the point of the FTC charge.

"The charge is that respondents use the practice of supplying cabinets to dealers as a device to get them to handle their ice cream. In other words, they use cabinets as an inducement or as a 'bribe' for patronage."

Paulson insists that evidence of witnesses supports this charge.

Supporting Paulson in his appeal is the National Independent Dairies Association. D. C. Daniel, general counsel of the group, filed a brief of amicus curiae (friend of the court) noting that "the importance of these cases to the dairy industry and the consuming public cannot be over-emphasized.

"It may well be that whether free and competitive enterprise, not only in the ice cream industry but in the entire dairy industry, shall give way to monopolization in the hands of a few giant concerns, will be strongly influenced by the outcome of these proceedings."

In addition to supporting Paulson's contentions, Daniel emphasized the immorality of the complaint practices. He said:

"The complaint practices have no legitimate place in a free and competitive enterprise system, because the secret inducements offered in connection therewith will all too frequently become the weight that tips the scales in favor of the supplier who grants them."

What States Say about Supplying Ice Cream Cabinets, Service

WASHINGTON, D. C.—As part of his brief of amicus curiae in support of the unfair trade practice complaints against nine major ice cream manufacturers, D. C. Daniel, general counsel of the National Independent Dairies Association gave this brief outline of the legal status of refrigeration giveaways and free refrigeration service in the various states:

"Refrigeration facilities necessary for the storage and preservation of the distributor's own products may be furnished and maintained, provided the distributor receives reasonable compensation therefor; and, if equipment is not accessible to the wholesale customers and will reduce the number of deliveries thereby resulting in savings in delivery costs, it is lawful for the manufacturer or distributor to place such equipment on the premises of the wholesalers in the states of **California** and **Idaho.**

"Provided the use thereof is restricted to the sale of their own frozen desserts, distributors and processors may furnish the retail dealer with storage and display cabinets in **Louisiana, South Carolina, Tennessee, North Carolina,** and **Wisconsin.**

"In the state of **Kansas** ice cream cabinets may be sold at not less than a 10% markup on the list price and such sales must be on a cash basis or on a thirty-month conditional sales contract at not less than 6% interest per annum.

"In Minnesota cabinets can only be sold to the retail dealer, and the sale price must be the actual cost plus 15%. Used cabinets may be sold but the cabinets must be depreciated at the rate of 15% per year.

"In **Oklahoma** it is unlawful to furnish, give, rent, lease, or lend ice cream cabinets, but such cabinets may be sold at the manufacturer's list price plus 5% markup after deducting 15% annual depreciation up to a maximum of 90%. Sales may be be for cash or under a conditional sales contract providing for payment in 30 monthly instalments with interest at the rate of 6%.

"It is lawful to service equipment or facilities for specified compensation in **California, Idaho, Louisiana, Minnesota, Oklahoma, South Carolina, Tennessee,** and **Wisconsin.**

Council Mfg. Purchases Space for Expansion

FORT SMITH, Ark.—Council Mfg. Corp. here has purchased additional space for expansion of its manufacturing capacity.

The new building, which provides 22,500 sq. ft. of floor space, will contain facilities for producing the housing units of Council's ice vending station and recently-introduced walk-in coolers and freezers.

All metal work and the manufacture of the ice-making mechanism itself will continue to be done in the company's present plant. The new site, purchased from Western Door & Plywood Co., is a two-acre tract with rail facilities. In addition to the building and acreage, Council purchased the machinery and inventory of the plywood company.

Men who know quality best . . . choose Calgon®!

Yes, men who have tried them all choose Calgon Products. Products such as Calgon Algaecide or Calgon Biocide RP. Both provide a fast, sure kill. Safe and easy to use, these products will help keep heat transfer rates high, help cooling water systems operate at top efficiency.

Calgon Algaecide and Calgon Biocide RP are two more Quality Calgon Products available from your Refrigeration Wholesaler. Ask him about all of them.

For free booklet on how to solve water problems, write:

CALGON COMPANY
HAGAN BUILDING, PITTSBURGH 30, PA.

DIVISION OF HAGAN CHEMICALS & CONTROLS, INC.

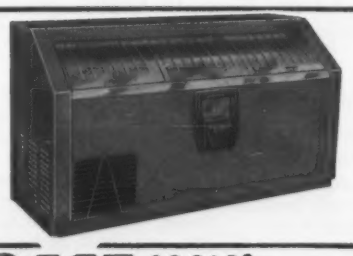
LA CROSSE QUALITY LEADS THEM ALL!

THE NEW
FLAKE KING

Here's the newest leader in the complete line from La Crosse . . . the new automatic FLAKE KING. Produces 550 lb. of hard dry ice every 24 hours . . . storage capacities of 280 lb. to 470 lb. . . . grey, hammertone baked enamel finish, stainless steel storage bin and door . . . minimum of floor space . . . economical operation all the way!

THE NEW
BOTTLE COOLER

Up to 45% greater capacity than ever before . . . 6'6" model, with coil only, holds 40 cases!

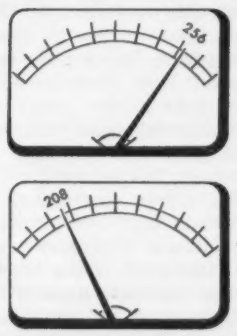


LA CROSSE COOLER COMPANY
3000 LOSEY BOULEVARD SOUTH, LA CROSSE, WISCONSIN

EXPORT OFFICE: 60 EAST 42nd STREET, NEW YORK • CABLE: EXPEDITE

When The Line Voltage Measures

Above Normal
or
Below Normal



Install an ACME ELECTRIC Buck and Boost Transformer

• Air conditioning equipment cannot function properly if connected to a supply circuit that is substantially below or in excess of the normal rating of the motor.

An air conditioning unit with a motor designed for 230 volts operation will lose torque, overheat or cycle off-and-on if operated from a circuit below the nameplate rating.

A Buck and Boost transformer connected to a 208 volt circuit and adjusted for a 10% boost will supply 228.8 volts which is entirely satisfactory for 230 volt motor operation.

If operated on excessively high voltage the motor will run hot, windings char and finally burn-out and the cost of consumed electric current will be higher than necessary.

To correct undervoltage or overvoltage conditions — install an Acme Electric Buck and Boost transformer. Write for catalog.

ACME ELECTRIC CORPORATION
925 WATER STREET CUBA, NEW YORK

Acme ACME Electric
TRANSFORMERS

Dealers View Control Carnivals In Eastern Areas

CONTROL CARNIVAL provides circus atmosphere in which to demonstrate Minneapolis-Honeywell heating and air conditioning controls to large groups of wholesalers and retailers. Here Honeywell salesman John McGuane shows new Weather Station at New York City carnival to Ralph F. Lanzilli, Lanzilli Co.; Robert Bernard, Sid Harvey, Inc.; and Robert O'Rourke, N.Y. Plumbers Specialty Co.

* * *

MINNEAPOLIS — More than 4,500 wholesalers and dealers of heating and air conditioning equipment have attended a series of Honeywell "Control Carnivals" in New York state and New England.

The carnivals, planned as business-social events in a circus atmosphere, were started last fall in upstate New York to give large groups of dealers an opportunity of seeing on-the-spot demonstrations of Honeywell's latest control instruments, explained Fred Kaiser, vice president in charge of the eastern region.

He said that 24 carnivals have been held in Syracuse, Rochester, Albany, Binghamton, Plattsburg, Poughkeepsie, Portland (Me)., Pittsfield, Bridgeport, New Haven, Hartford, Springfield, Providence, and the Greater New York area. Seven were held in the latter region.

Additional carnivals will be held in other eastern region locations this spring.

The circus atmosphere of the carnivals was created through decorations, costumes worn by the Honeywell hosts, music, and raffles. Complete lines of Honeywell heating and air conditioning equipment were demonstrated and dealers had the opportunity of placing orders. Refreshments were served.

The idea for the control carnivals was developed by Honeywell salesmen Anthony Wayne of Rochester and Henry Mayer of Syracuse, Kaiser said.

John Hayes Forms New Mfrs'. Rep. Agency

CHICAGO—John Hayes, formerly sales manager, national accounts, for Cribben & Sexton, Waste King Corp. subsidiary, has established a new manufacturers' representative agency.

Called John Hayes & Co., it is located at 7001 N. Clark St., Chicago 26 (Ambassador 2-7050).

Hayes plans to sell consumer durables through distributors in the building supply, houseware, and appliance fields.

NEWS readers are invited to write to the editor giving their opinions on any subject of interest to the industry.

Flexonics Breaks Ground for New Headquarters Building In Bartlett, Ill.

BARTLETT, Ill.—At groundbreaking ceremonies here, A. S. Kromer, president of Flexonics Corp., formally announced the selection of a site for the headquarters of all of Flexonics general offices, manufacturing operations, and research and development activities.

The new industrial complex will be located on a 50-acre tract in Barlett near Elgin. Ralph Stoetzel has been selected as the architect-engineer and Joseph T. Carp, Inc. as the general contractor.

Attending the ceremonies were officials of the village of Bartlett and the Bartlett Building Commission, D. W. Blend, vice president of operations for Calumet & Hecla, Inc., Flexonics' new owner, and other executives of Flexonics and the architect-engineer, contractor, and industrial realty firms.

Stoetzel explained that the new structure will approximate 325,000 sq. ft. including a modern manufacturing plant, a two-story office building, and a research and development center. A connecting service building will house an employe lunch room and manufacturing offices.

Stoetzel added that the modern office interior is to have asphalt tile floors, acoustic ceilings, and concrete block and plaster partitions.

Complete air conditioning will be provided in all offices along with humidity controlled and dust free areas for testing work of a highly sensitive nature in the plant. Functionally designed ceiling level windows are planned for the warehouse and manufacturing area to supplement the fluorescent lighting.

All operations of Flexonics now being performed at the company's plants and offices in Maywood, Elgin, Savanna, and Rock Falls, Ill., Santa Ana, Calif., and Memphis will be moved into the new seat of operations over a period of several months starting in the fourth quarter of this year.

However, the company's four regional and ten district sales offices will operate from strategic positions in key industrial cities.

According to Kromer, the new structure will provide Flexonics with more efficient and economical manufacturing operations and improve service to all of the company's customers.

One in a series of interviews with the men who are "Virginia"

"Equipment can be damaged easily by using a strong, corrosive scale remover—choose one that is well inhibited, yet still strong enough to clean effectively"

Vincent Klucz, field engineer for Virginia Smelting Company

Water treatment specialist Vincent Klucz, of Virginia Smelting Company, discusses problems in removing scale in air-conditioning systems.

Q How serious a problem is corrosion in scale removal?

A It can be very serious, especially when the metal surfaces are galvanized. Many of the currently available scale removers can chew off most of a galvanized coating in just a few hours. And with that protection gone, the bare metal will start corroding simply by being exposed to the circulating water.

Q Does "Virginia" offer a really safe scale remover?

A Yes. Our solid scale remover is one of the safest available. Basically it consists of sulfamic acid—about 96%—and this is very effective in removing most types of scale. Then there are special inhibitors that have been added to reduce sharply its corrosive effect on copper, iron, steel and aluminum but that do not affect the scale dissolving efficiency. Two pounds of our solid scale remover will remove one pound of scale. For a service company that is concerned with protecting as well as cleaning the customer's equipment, "Virginia" Solid Scale Remover is an ideal choice.

Q Is it easy to use?

A Easy—and safe for the operator as well as the equipment. It's a dry powder—so if you drop it, there's no broken glass, no acid splashing around, no danger of injury to anyone. Just shovel up the powder. Add it to the water and stir until the powder is dissolved. There are no noxious fumes that could endanger the operator, either.

Q Is there any way to avoid scale buildup?

A Yes. All water contains impurities in varying degree . . . either as suspended solids or as solids and gases in solution. The solids, of course, cause scale buildup, and the gases cause corrosion. "Virginia" Scale & Corrosion Inhibitor does an excellent job of keeping these impurities in suspension or solution, thus greatly retarding scale buildup in the system. It offers other advantages, too. As little as 2 to 4 parts per million in the water will take care of retarding scale and 25-50 parts per million will deposit a thin, protective film over all metal surfaces to exclude oxidation attack. And it has a neutralizing effect on weak acids formed by airborne gases. I might point out that the best time to use preventive treatment is immediately after cleaning a system. Just add the right amount of inhibitor to the sump water and check for proper bleed.

Full details on water treatment

Our folder "How to Turn Water into Money" gives all the facts on water treatment—preventive and remedial action. For a copy, write Refrigeration Division, VIRGINIA SMELTING COMPANY, 485 Jefferson St., West Norfolk, Va.

VIRGINIA® Chemicals

Water Treatment Chemicals • Esotoo • V-Meth-L • Can-O-Gas VascoCel • Presstite Tape • Permagum • Suniso Refrigeration Oils • National Sales Agent & Repacker for Du Pont's "Freon" Refrigerants.

Available in Canada and many other countries

Heat Waves Across Country Predicted by Krick--Honeywell Broadcasting Forecasts

MINNEAPOLIS—A real hot summer is predicted by Irving P. Krick Associates, Inc., with high humidities accompanying several of the heat waves.

The Krick forecasts are being broadcast over 200 National Broadcasting Co. radio stations on Sunday mornings through May 8 under the sponsorship of Minneapolis-Honeywell Regulator Co. Heat waves pinpointed by the Krick organization are expected to occur as follows:

June 15-18: Southern plains and western Gulf Coast.

June 21-22: Michigan, Ohio, western Pennsylvania, broken by rain.

June 20-30: High temperatures throughout all east and midwest broken by rain, peaking in the east at the end of the month.

July 4-6: Atlantic coast, broken by storms the seventh and eighth. California and parts of Oregon and Washington east of the Cascades.

July 7-10: Central plains and midwest.

July 9-10: Southeast hot and humid.

July 14-18: Central plains and midwest.

July 16-18: Muggy in Ohio and Tennessee Valleys, hot in coastal California, hot and sticky in Delaware, Maryland, Virginia, and North Carolina tapered by storms between 21st and 24th.

July 24-27: Coastal California.

July 27-28: East coast from Boston to Wilmington, N. C.

Aug. 3-7: Texas and Oklahoma.

Aug. 9-10: North Carolina and southward to New Orleans.

Aug. 13-14: Plains from St. Louis north.

Aug. 13-19: Texas and Oklahoma.

Aug. 15-17: Hot and humid Boston to Atlanta. In New England extending possibly to Aug. 21.

Aug. 25-29: Virginia, Carolinas to New Orleans.

Aug. 27-30: Texas, Oklahoma, and the plains.

Aug. 29-30: West Virginia, Ohio, and Pennsylvania.

Presenting the Krick forecasts on its "Weather Watch" radio program is one of several industry-oriented programs Minneapolis-Honeywell is conducting this year in connection with its 75th anniversary.

The programs are designed to focus attention on air conditioning and heating. A similar six-week segment will go on the air this fall emphasizing heating.

Commercials used on the show urge homeowners to make plans for central air conditioning and have their heating systems checked.

In connection with the broadcasts, Minneapolis-Honeywell made available to dealers a special slide show which can be used in making presentations to homeowners.

"VIRGINIA"

Water Treatment Chemicals

Solid Scale Remover

A 96% sulfamic acid dry formulation specially inhibited to reduce attack on metal surfaces. Empty into the water and stir. It goes to work instantly. Non-injurious to galvanized, dipped zinc, and aluminum water-cooled equipment when used as directed. Easy to use—no heavy glass jugs—no hazards from breakage. Destroys algal growths, too.

Liquid Scale Remover

Now in a shatterproof throwaway container—tough plastic liner and spout make pouring easy. No breakage, splash or drip. Ideal for thick scale. Has dissolving capacity 50% greater than that of similar cleaners. Well inhibited to prevent serious damage to metal. No noxious fumes—safe for the operator to use.

Ice Machine Cleaner

Eliminates slow freeze, sticking cubes, cloudy ice with bad taste and odor. Safe to use—will not injure enamel or polished metal surfaces. For automatic cube or flake ice machines. Turn off machine—fill tray with warm water—use cleaner—flush out. That's all there is to it!

Also—"Virginia" Scale & Corrosion Inhibitor, Chilled Water Treatment, Algae-Cides #1, #2 & #3. "Virginia" products are available from leading wholesalers everywhere.

Refrigeration Division
VIRGINIA SMELTING COMPANY
485 Jefferson St., West Norfolk, Va.

MCAA Convention Program--

(Continued from Page 1, Col. 2)

p.m., Monday, May 9, in the Jade Room.

Guest speakers will include: R. G. Werden of Valley Engineering Co., on "Feasibility Studies of Apartment House Air Conditioning" and Robert Morse Wood of Ebasco Services on "Central Station Heat Pumps."

National Disaster Relief Committee Panel, to be held from 4 p.m. to 5:30 p.m., Tuesday, May 10, in the Park Avenue South Room. The role of the mechanical contractor in times of emergency will be the topic under discussion.

Statistical Survey Panel, under the chairmanship of Anthony L. Cherne of Minneapolis, to be held as part of the general session, 10 a.m. to noon, Wednesday, May 11, in the Starlight Roof. Guest speaker will be William F. O'Donnell, CPA, speaking on "Overhead Management for Mechanical Contractors."

Pipe Welding Panel, under the chairmanship of William E. Maloney of Buffalo, to be held from 2 p.m. to 3 p.m., Wednesday, May 11, in the Basildon Room. Topic will be "Can We Afford Expensive Pipe Welding?"

Several major addresses will also be delivered. Speakers include:

John T. Dunlop, impartial chairman of the Construction Industry Joint Conference; Philip Ray, Undersecretary of Commerce; Austin Kelly of the National Employee Relations Institute; Peter T. Schoemann, general president of the United Association; Calvin Johnson of Remington-Rand Corp.; and Walter K. Gutman, investment analyst with Shields & Co.

The second day of the convention, May 10, will be devoted to the Fourth Annual Business Conference. Formal opening will be at 10 a.m. in the combined Jade, Basildon, and Astor Rooms.

This year's conference will have over 50 booths at which manufacturers of components and materials for the heating, piping, air conditioning, and ventilating industries will have the opportunity to discuss, informally and face-to-face, those problems of most concern to their contractor customers.

The number of booths this year is a 33% increase over last year and a 300% increase over the first conference session in 1957.

Social activities will also play an important part in convention proceedings. A get-together cocktail party is scheduled for the evening of May 9 and a second cocktail party, sponsored by John J. Nesbitt, Inc., will precede the annual dinner-dance, Wednesday evening, May 11.

Final general session, Thursday morning, May 12, will feature a report on MCAA participation in the Better Heating-Cooling Council as well as the election and installation of officers for the 1960-61 year. Adjournment is scheduled for noon.

Carrier Financing--

(Continued from Page 1, Col. 2)

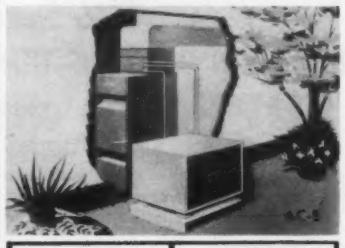
According to Melvin C. Holm, Carrier financial vice president, "Multiple-choice financing now provides Carrier customers with maximum flexibility in determining the plan most suited to their needs."

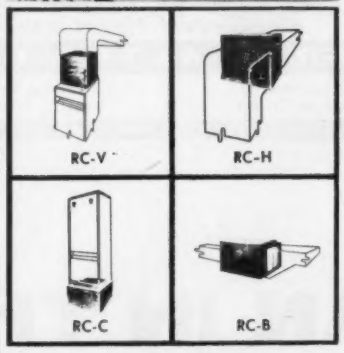
United States Leasing and ABCC have begun a series of "lease-finance" training meetings for the benefit of Carrier's sales and distributing organizations.

ADVERTISEMENT

PRODUCT NEWS

Here are several new developments in the field of scientific heating and air conditioning, including a new heat pump unit that has just completed extensive field testing and development work.



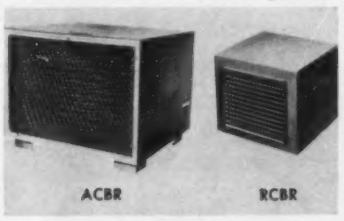


American-Standard Split-System Air Conditioner

This compact air conditioner consists of the AC-B outdoor condensing unit and one of 4 different evaporator models.

The AC-B condensing unit comes in 2, 3, 4 and 5 H.P. sizes. It is simple to connect the AC-B to a new or existing warm-air system. Controls are located where they are easy to get at; suction and liquid line valves are in front for quick service; the 4 and 5 H.P. units have *two* condenser fans for maximum cooling efficiency.

The four evaporator models cover a range of types and sizes for every kind of home and every furnace and ductwork design.

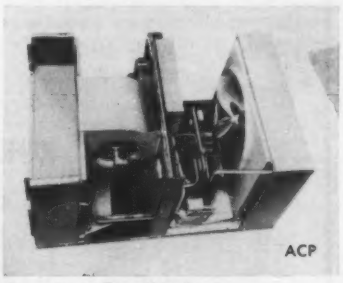


American-Standard Split-System Heat Pump

This Split-System Heat Pump, available in 3 and 5 H.P. models, consists of the AC-BR Outdoor Unit and the RC-BR Inside Unit, with its self-contained, high-capacity blower (mounted in the duct system). A single automatic thermostat provides the desired temperature in both summer and winter by means of an automatic gas reversing valve. The unit also has a de-icing system, which prevents ice build-up.

American-Standard Package Heat Pump

The ACPR Package Heat Pump is factory assembled and pre-wired, ready to install. It goes in an attic, crawl space, transom, or central hallway, to provide both heat *and* cool year-round. The ACPR comes in 2, 3 and 4 H.P. sizes. A single automatic thermostat provides the desired temperature in both summer and winter. Ice build-up is prevented by a special de-icing system, and a double drain pan saves work and money on installation, and meets FHA requirements.



American-Standard Self-Contained Air Conditioner

This unit, the ACP, installs anywhere—through a basement wall, up in an attic, even outdoors on a roof. It features a powerful pull-through type condenser fan of high efficiency; a built-in double drain pan which eliminates the expense of fabricating a secondary pan to meet FHA requirements; a durable baked-enamel weather-resistant finish. The ACP comes in 2, 3 and 4 H.P. models. The 4 H.P. Unit has *twin* compressors.

For cooler areas, a supplementary electric heater is available in four capacities.

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Shreveport Issues 98 Heating, Cooling Permits In March

SHREVEPORT, La.—During March, the city's Air Conditioning Dept. issued 98 permits for air conditioning and heating installations costing $202,618, according to Clyde Juneau, air conditioning inspector.

This compares with 135 permits issued during February for a total equipment and installation cost of $182,030. March permits were listed as follows:

Residential: Year-round air conditioning and heating—33; air conditioning—1; heating—33; replacements—2.

Commercial: Year-round air conditioning and heating—13; air conditioning—2; heating—3; replacements—1.

Alterations and/or additions—5. Refrigeration—5.

Largest commercial permit was issued to Mechanical Contractors for a $42,555 air conditioning and heating installation for Centenary college. Largest residential permit went to Arkansas-Louisiana Gas Co., amounting to $3,838, for air conditioning and heating.

Industrial Acoustics, Koppers Settle Suit

NEW YORK CITY — Industrial Acoustics Co. here announced that a satisfactory settlement has been reached in the patent suit brought against it sometime ago by Koppers Co. and an allied engineering firm.

"Industrial Acoustics, a pioneer in the field of noise suppression, consented to a settlement, as the point of contention became moot," the announcement said.

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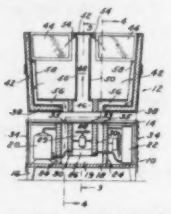
FREE PARKING AND FAST COUNTER SERVICE AT THESE 4 BIG WAREHOUSES

PATENTS

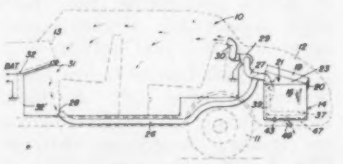
Week of December 8

2,915,884. SEPARABLE AND READILY PORTABLE REFRIGERATION DISPLAY CABINET. Thomas L. Haushalter and Earl L. Bergeron, Livonia, Mich., assignors to The Frank-Dewey Co., Inc., Detroit, Mich.



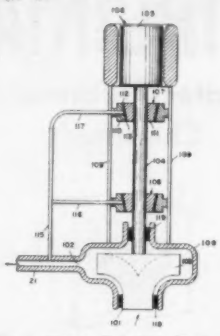
1. A portable refrigerated display case comprising two stacked sections removably joined together one above the other, the upper section comprising a top-access food storage compartment, a cold air inlet duct including insulating walls extending between an opening in the bottom wall of the upper section and a distributing vent near the top inside of the upper compartment, a spent air return duct extending to a second opening in the bottom wall from a return vent spaced from the distributing vent, the lower section comprising an electric refrigeration system having an air-cooling heat exchanger, a circulation duct connecting between a pair of openings. . . .

2,915,885. VEHICLE COOLING DEVICE. Walter William Reagan, San Antonio, Texas.



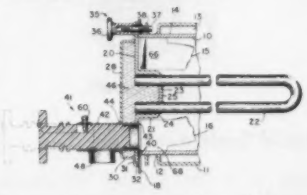
1. In a cooling system for a vehicle of the type including a trunk, a chest arranged in said trunk and including a horizontally disposed bottom wall, spaced parallel vertically disposed end walls, and spaced parallel vertically disposed front and back walls, a lid hingedly connected to said back wall, said chest having a cooling medium therein, a drain pipe extending from the bottom of the chest, a support member positioned between said lid and the top of the chest. . . .

2,915,886. HERMETIC PUMPS FOR USE IN REFRIGERATION SYSTEMS. Louis H. Leonard, Jr., East Syracuse, N. Y., assignor to Carrier Corp., Syracuse, N. Y.



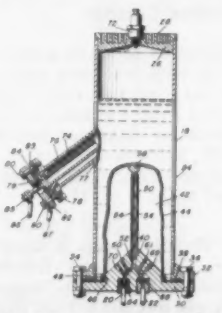
7. In a pump for use in a location in which it may be exposed to a metal plating action such as an absorption refrigeration system employing a salt solution as an absorbing medium, the combination of a pump housing having an inlet and an outlet, an impeller in said housing, a motor for actuating said impeller, a shaft carrying said impeller and connected to said motor, a bearing supporting the shaft in desired position to permit rotation thereof. . . .

2,916,044. COVER AND SERVING VALVE FOR FREEZERS. Louis A. M. Phelan, Rockton, Ill., and Ira G. Brinegar, Ottumwa, Iowa; said Brinegar assignor to said Phelan.

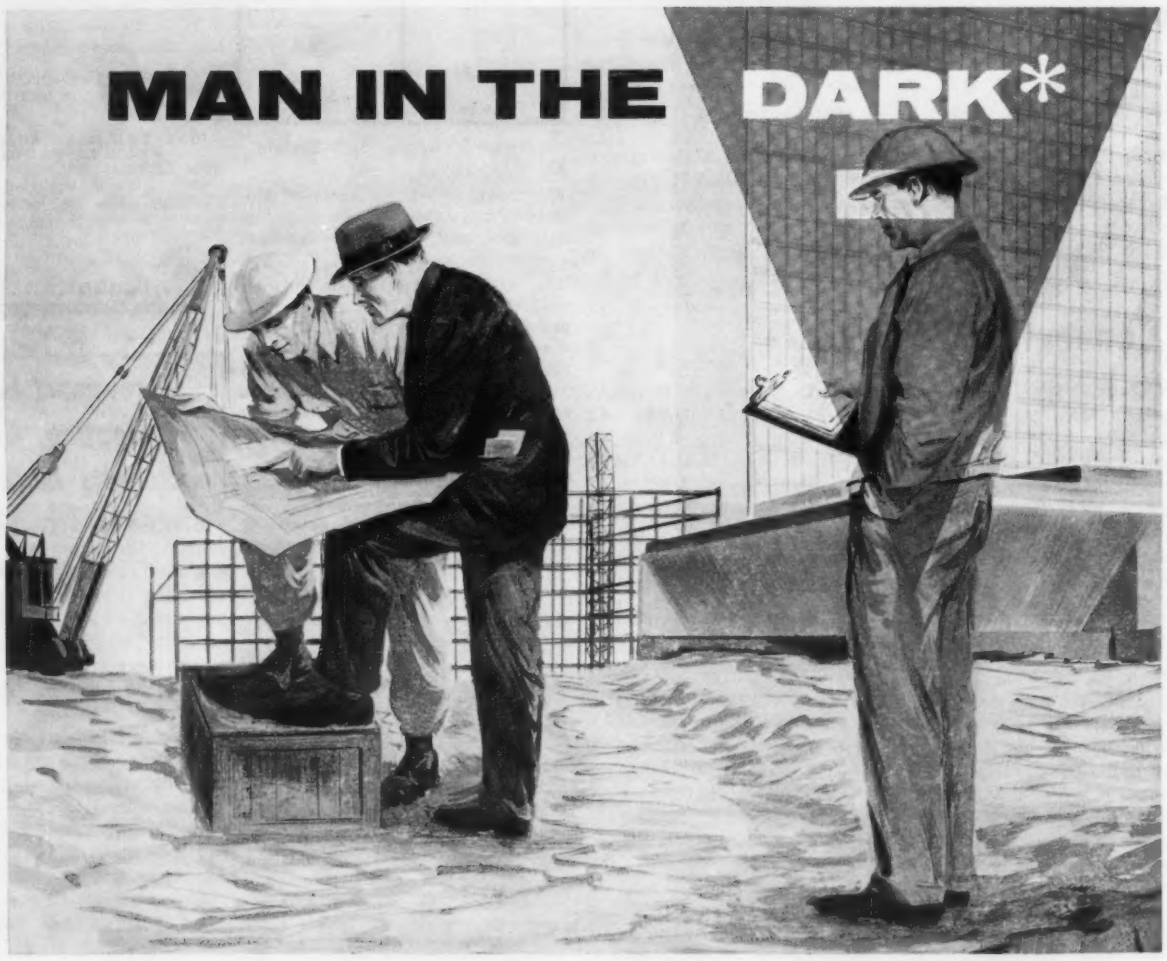


1. A cover and serving valve arrangement for a freezer cylinder including, a plate, an outer wall spaced from said plate and mounted thereto, the space between said plate and said outer wall being an insulated space, a uniform bore discharge tube passing through said plate and wall and extending outwardly therefrom, an outlet extending from said tube intermediate the length of the latter and at a location spaced outwardly from said outer wall. . . .

2,916,200. COMPRESSOR FOR REFRIGERATION SYSTEM. Gerhard Bernhard Siegmund, Frankfurt am Main, Germany, assignor to one-third to Arthur V. Jackson and one-third to Milton M. Sperber, both of Dayton, Ohio.



1. A compressor comprising a casing in which to accommodate a supply of water, means to decompose some of the water in said casing, means to burn the products of decomposition to cause an expansion in said casing, a flexible bag in said casing and enclosing a compression chamber



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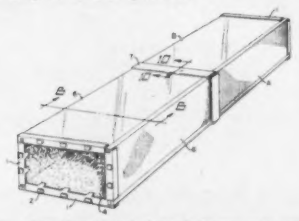
containing a fluent substance, a wall constituting a part of said casing on which the open end of said bag is mounted. . . .

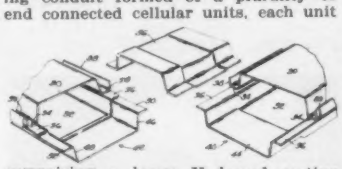
2,916,054. KNOCKDOWN SECTIONAL AIR CONDUITS. William D. Callan, Cincinnati, Ohio.



1. An insulated knockdown air conduit comprising conduit sections composed of separate flat thermo-insulating wall panels having readily detachable interfitting longitudinal edges, means carried by the panels for wedging them into interlocking relation, each of said panels being of metal having a surrounding marginal flange to provide a recessed side face, an insulating slab filling the recess, and lugs stamped from the surrounding flange for locking the insulating slab in the recess.

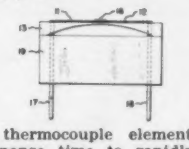
2,916,110. AIRTIGHT JOINTS FOR AIR CONDUCTING FLOOR CELLS. Bernard E. Curran, Sewickley, Pa., assignor to H. H. Robertson Co., Pittsburgh, Pa.

1. In a building and air distributing structure, a cellular metal load supporting floor embodying an air carrying conduit formed of a plurality of end connected cellular units, each unit



comprising a lower U-shaped section and an upper inverted U-shaped section, each section having laterally extended flanges welded together to provide a cellular structure. . . .

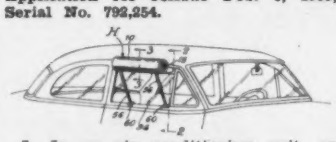
2,916,537. THERMOCOUPLE ELEMENT. Robert J. Reid, El Cajon, and Wayne M. Gross, Poway, Calif., assignors to General Dynamics Corp., San Diego, Calif.



1. A thermocouple element having fast response time to rapidly changing temperatures conducted thereto by air masses of high velocity, said element comprising a junction formed by two dissimilar materials in the thermoelectric series, leads extending from each of said materials, and a support for supporting said materials in a Mach 1 air stream, said support providing continuous support throughout the length of said materials, said support being extremely thin under said junction to reduce heat conduction losses thereto and relatively thicker at the point where the leads extend from said materials to thereby provide a raised undersurface for air circulation thereunder.

REISSUES

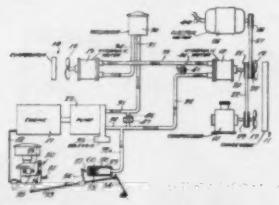
24,745. AUTOMOBILE AIR COOLER. Oakie P. Bullock, Wichita, Kan. Original No. 2,780,928, dated Feb. 12, 1957, Serial No. 391,877, Nov. 13, 1953. Application for reissue Feb. 6, 1959, Serial No. 792,254.



5. In an air conditioning unit, an elongated housing generally open at both ends to provide for the flow of air through it, a refrigerating unit within the housing for the compression and expansion of a refrigerant, including a compressor, a condenser in communication with the compressor, an evaporator in communication with the condenser, expansion means between the condenser and evaporator, the evaporator being in communication with the compressor. . . .

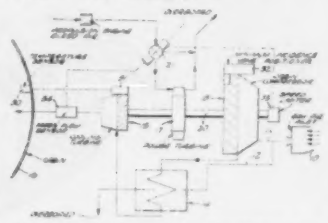
Week of Dec. 15

2,916,880. DRIVE FOR REFRIGERATION SYSTEMS OR THE LIKE. Melvin M. Hann, Rockford, Ill., assignor to Sundstrand Corp., a corporation of Illinois.



A drive for refrigeration systems including a compressor apparatus and an evaporator apparatus comprising, first and second hydraulic motors adapted for connection respectively with the compressor apparatus and the evaporator apparatus of said refrigeration system for driving the same, a hydraulic pump for supplying fluid under pressure to drive the hydraulic motors, a reservoir, a supply conduit connecting the reservoir and the pump inlet for supplying fluid to the pump. . . .

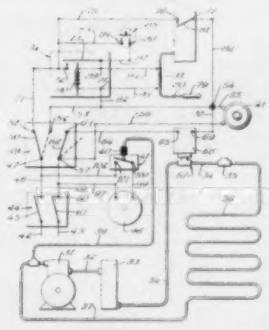
2,916,890. RAM AIR CYCLE MACHINE. Clyde R. Stein, Los Angeles, Calif., assignor, by mesne assignments, to Crane Co., Chicago, Ill.



1. A cooling and pressurizing system for the cabin of an aircraft of the type having a propulsion engine forming a source of bleed compressed air and another source of ram air comprising: a single shaft; a rotary compressor, a power turbine and an expansion turbine all mounted on said shaft; an air-to-air heat exchanger. . . .

Editor's Note: Patents described here have been selected from the "Official Gazette" of the United States Patent Office. They offer only a brief summary of each invention. In some instances only the first part of the digest is presented.

2,916,891. PREMATURE CYCLER FOR REFRIGERATION LOAD. Donald F. Swanson and Wynn G. Winkler, St. Paul, Minn., assignors to Whirlpool Corp.



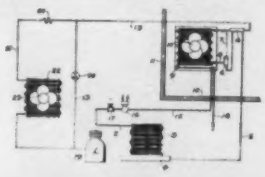
1. A premature cycler for refrigeration load comprising a refrigeration system including an evaporator, a compressor connected thereto to circulate refrigerant therethrough, and an electrically operated valve means for controlling the circulation of refrigerant through said evaporator, a thermostat associated with said electrically operated valve means for controlling the operation thereof, a first circuit including a current source, said valve. . . .

2,916,892. AIR CONDITIONING SYSTEM CONTROLS. Charles F. Whitmore, Newfane, N. Y., assignor to General Motors Corp., Detroit, Mich.

1. An air conditioning system comprising a compressor, condenser and evaporator connected in series for the circulatory flow of refrigerant, an expansion valve arranged to admit said refrigerant to said evaporator, thermostatic means responsive to the refrigerant discharge temperature of said evaporator and arranged to control said expansion valve, a line in said system by-passing said expansion valve and evaporator and connected to the discharge side of the latter upstream from said thermostatic means for discharging compressed refrigerant to affect the latter. . . .

2,916,893. REFRIGERATING SYSTEM WITH HOT GAS DEFROSTING MEANS AND ADAPTED FOR USE WITH A LOW TEMPERATURE CABINET. Israel Kramer, Trenton, N. J., assignor to Mercer Engineering Co., Trenton, N. J.

A refrigerating system comprising, an electrically motor driven compressor of the low temperature hermetically sealed suction gas cooled type, an evaporator, a condenser connected by conduit with the compressor discharge



for supplying condensed refrigerant to the inlet of the evaporator, a hot gas defrosting conduit connecting the compressor discharge with the evaporator and by-passing the condenser. . . .

(To Be Continued)

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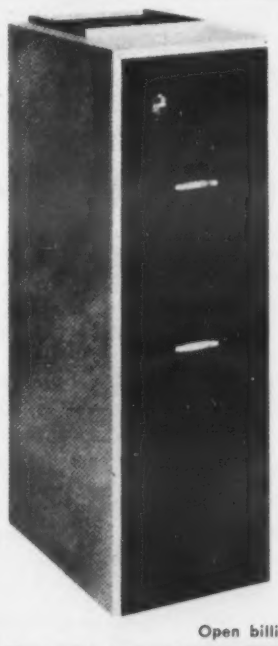
OPPORTUNITY IN long-established refrigeration, air conditioning business. Investment with services or complete ownership. Not a distress sale. A growing business with big future in Southern California. Minimum $25,000.00 investment to be added to present structure of better than equal to $90,000.00. Good financing connections for sales. BOX A6535, Air Conditioning, Heating & Refrigeration News.

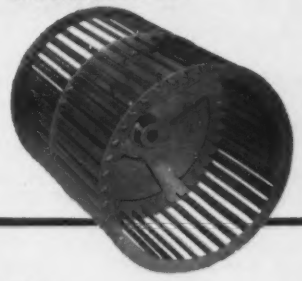


ESKIMO ADD-ON
2 TON
AIR COOLED
AIR CONDITIONING UNIT
SPECIAL AT
$339.00
WITH
Remote Air Cooled Condenser
FOB OUR WAREHOUSE
LOS ANGELES

OTHER MODELS AT VERY LOW PRICES.
Open billing to accounts with satisfactory D&B rating.
These units are equipped with TECUMSEH COMPRESSORS—GENERAL CONTROLS, MASTER CONTROL PANEL.
For additional information, phone, wire or write to:
ESKIMO PRODUCTS DISTRIBUTORS
2146 Sunset Blvd., Los Angeles 26, Calif.
Phone DUnkirk 5-2239

WHY?
Why Does
Amana
REFRIGERATION, INC.
use **Revcor**
"BLASTAIRE" BLOWER WHEELS?

because...

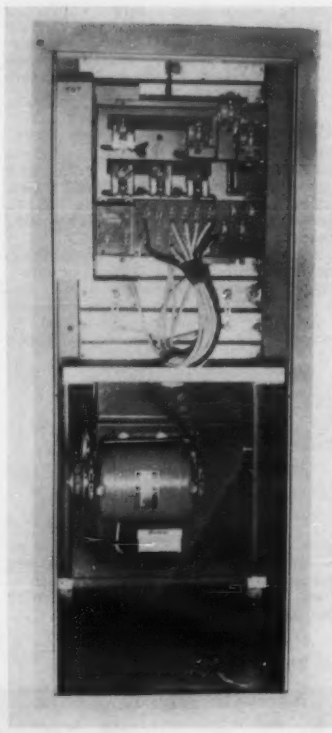


***Revcor** Double Inlet*
Blastaire Blower Wheels use less space and meet the high performance and quality standards demanded by Amana!

***Revcor** Single* and *Double* INLET BLASTAIRE BLOWER WHEELS ARE USED BY OVER 60% OF THE ROOM AIR CONDITIONER MANUFACTURERS!

WRITE FOR FREE BROCHURE
or send specifications to:

Revcor INC.
ENGINEERS-MANUFACTURERS
251 Edwards Street
Carpentersville, Ill.



MODULATING control panel of the new American-Standard Electric Warm Air Furnace is shown above.

INSIDE UNIT of American-Standard split heat pump available in 3 and 5 hp.

American-Standard

(Continued from Page 1, Col. 5)

of other types of electric heating equipment.

"Every effort should also be made to promote ducted electric heating and air conditioning to the electric utilities, so that they may appreciate more fully the advantages that such air distribution systems offer."

"As a part of this promotion to electric utilities, we are offering our distributors a special 'utility showroom display,' which features the five major advantages of electric year-round air conditioning — air filtering, air circulation, air heating, air cooling, and year-round humidity control. This display measures 6 by 6 ft. and is available for utility showrooms."

The new American-Standard electric furnace is a factory assembled and wired unit of 24 kw (82,000 B.t.u.) heating capacity.

"Simple reconnection of electric hookup can reduce the capacity by steps down to 41,000 B.t.u. to meet precise home heating requirements," it was stated. "The furnace is available in both upflow and downflow models. Two blower capacities are available to handle up to 5 tons of add-on cooling."

The American-Standard packaged heat pump is designated as model ACPR and is available in 2, 3, and 4-hp. capacities. The split-system model consists of model AC-BR, outside unit, and RC-BR, inside unit. American-Standard split system heat pumps are available in 3 and 5-hp. capacities.

"Both the split system and packaged heat pumps provide for completely automatic heating and cooling by single thermostat control," the announcement said. "Both are equipped with an automatic de-icing system. A supplementary electric heater is available in four heating capacities from 4 through 16 kw to provide additional electric resistance heating as necessary."

Van D. Clothier Named To Represent Larkin

ATLANTA—Van D. Clothier, Inc., Los Angeles manufacturers' agent, has been named to represent Larkin Coils, Inc. in California and Arizona, it was announced by James E. Palmer, Larkin sales manager.

RBM Announces Complete Line of Replacement Controls for Refrigeration and Cooling

LOGANSPORT, Ind. — Availability of a complete line of replacement controls for air conditioning and refrigeration equipment has been announced by the RBM Controls Div., Essex Wire Corp.

RBM, one of the largest manufacturers of air conditioning and refrigeration controls for the original equipment market, will have distribution of these replacement kits through authorized refrigeration wholesalers in the United States.

Products available include: potential motor starting relays, control and power relays, contactors, switching relays, and contactor replacement parts.

"To provide a minimum distributor inventory, RBM has manufactured and packaged these units so that only 20 potential relay kits are required to replace 355 various types now in use," it was stated. "Also, only 19 control relay kits are needed to replace 145 relays, contactors, controllers.

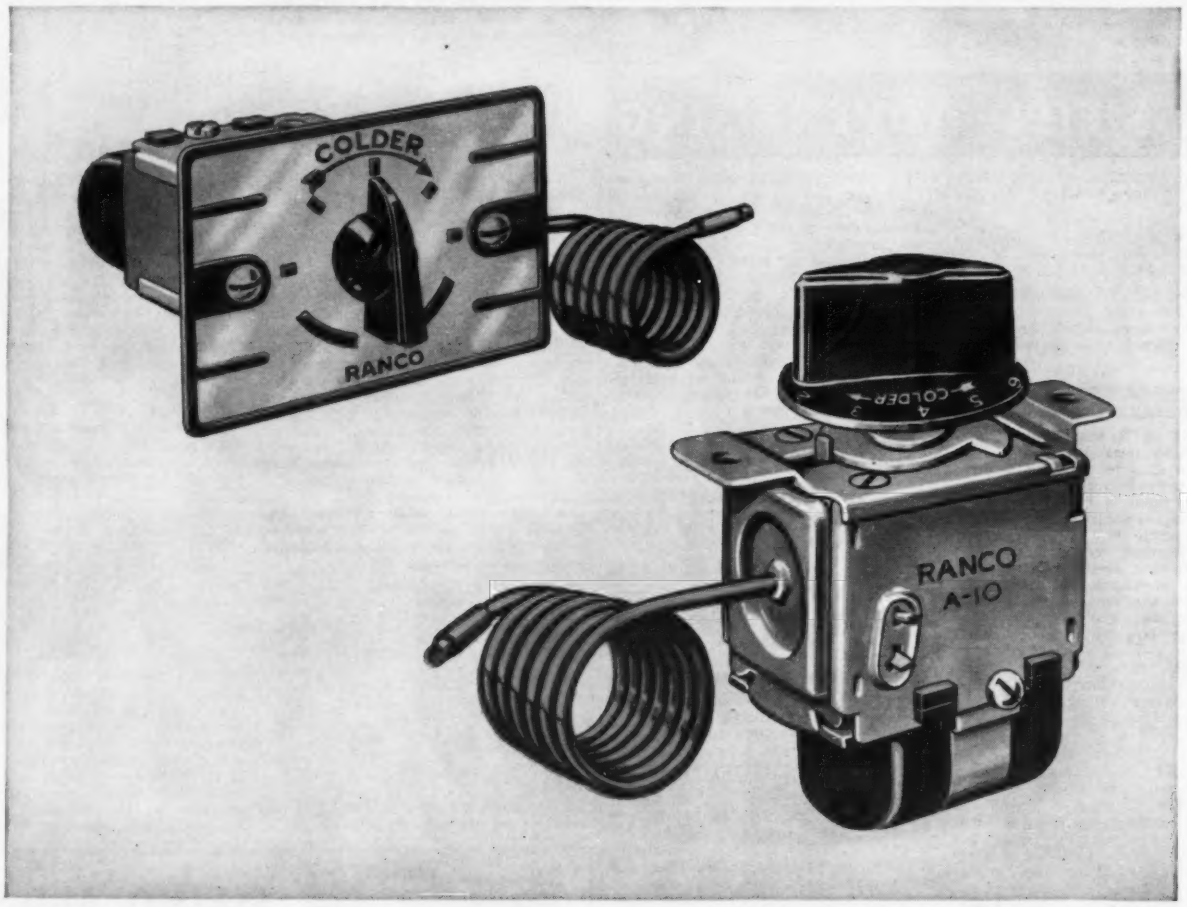
"All units are individually packaged in an attractive three-color carton that is convenient to stack. The 'easy to read' label contains kit number, name of part, as well as units that it will replace.

"Immediate 'off the shelf' delivery will be made from the RBM central warehouse at 3501 W. Addison, Chicago 18. Complete technical information and assistance will be available from the RBM general offices at 131 Godfrey, Logansport."

Long Beach RSES Features 10 Salesmanship Talks

LONG BEACH, Calif. — A series of 10 talks on "Salesmanship" are being featured at meetings of the Long Beach Chapter of the Refrigeration Service Engineers Society.

This series of talks has reportedly stimulated attendance. Eighty-one attended the February meeting.



Two types of Ranco "A 10" controls designed for use in room air conditioners. The .094" capillary tubing is coiled as a 1" x 1" air bulb. Other types of "A 10" controls are widely used in domestic and commercial refrigeration.

Ranco precision air conditioner controls require copper capillary tube of consistently high accuracy and quality

The compact "A 10" thermostatic controls of Ranco, Inc., Columbus, Ohio, are precision instruments built for long life in air conditioning and refrigeration service. One of the control's critical elements is the .094" O.D. copper capillary tube operating with the bellows as the power element.

Ranco finds that Anaconda copper capillary tube has the uniformly high quality and dimensional accuracy required for economical high volume production. The French Small Tube Division of The American Brass Company are specialists in making tube, one-piece bulb and capillary units, and fabricated tube parts for the refrigeration and air conditioning industry. These specially tailored, scrupulously clean tube products meet strict dimensional specifications, and are free from defects that could cause erratic operation.

Quality Tube and Creative Technical Services. Whether you need capillary tube, restrictor tube, bulb and capillary units or fabricated tube parts—in either copper or aluminum—the French Small Tube Division has specialists to help you find the most economical way to do the job. And it has the experience and facilities to supply the tubing you need. For further information or technical assistance, write: French Small Tube Division, The American Brass Company, Box 1031, Waterbury 20, Conn.

ANACONDA®
CAPILLARY AND RESTRICTOR TUBE
Made by French Small Tube Division of
THE AMERICAN BRASS COMPANY

ANACONDA PRODUCTS FOR THE REFRIGERATION AND AIR-CONDITIONING INDUSTRY